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CANADIAN FARM ECONOMICS

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ECONOMICS BRANCH CANADA DEPARTMENT OF AGRICULTURE

SELECTED ECONOMIC INDICATORS

	Average 1959-63	1964 Year	1964 3rd Q.	1965 1st Q.	1965 2nd Q.	1965 3rd Q.
			million dollars			
G.N.P. AT MARKET PRICES	38,483	47,003	47,392	49,908	50,880	52,056
TOTAL PERSONAL INCOME	29,148	35,019	35,160	38,172	37,652	39,040
TRADE						
Total exports	5,802	8,095	2,172	1,793	2,109	2,156
Total imports	5,915	7,490	1,821	1,841	2,231	2,117
Farm products exports	1,118	1,702	477	307	340	361
Farm products imports	832	1,047	253	195	271	240
			dollars			
AVERAGE WEEKLY WAGE IN MANUFACTURING	74.47	82.90	83.38	85.63	86.83	86.43
			thousands			
CIVILIAN LABOR FORCE						
Total	6,507	6,933	7,149	6,878	7,132	7,381
Employed total	6,098	6,609	6,906	6,481	6,835	7,171
Employed agriculture	675	630	711	523	623	688
Employed self-employed	430	397	411	352	374	384
Employed paid workers	108	99	134	69	111	148
Employed unpaid family	137	134	166	102	138	156
Employed non-agriculture	5,423	5,979	6,195	5,958	6,212	6,483
			per cent of labor force			
Employed in agriculture	10.4	9.1	9.9	7.6	8.7	9.3
Unemployed	6.3	4.7	3.4	5.8	4.2	2.8

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CANADIAN FARM ECONOMICS replaces the ECONOMIC ANNALIST and the CURRENT REVIEW of Agricultural Conditions in Canada.

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FOREWORD

This is the first issue of CANADIAN FARM ECONOMICS, the new bi-monthly journal of the Economics Branch, Canada Department of Agriculture. CANADIAN FARM ECONOMICS replaces two long-established publications of the Economics Branch—*The Economic Annalist*, first published in January 1931, and *The Current Review of Agricultural Conditions in Canada*, which began in July 1940.

CANADIAN FARM ECONOMICS is dedicated to providing farmers, research and extension workers, government administrators and agro-business organizations with information on current economic developments in Canadian agriculture. It will bring to its readers analytical reviews of the commodity situation and outlook; reports on economic research in agriculture; notes on legislation and policy developments affecting farmers; a selected list of new publications, both Canadian and foreign, in agricultural economics; and a compendium of current and historical economic statistics.

Comments and suggestions which will make CANADIAN FARM ECONOMICS more effective are invited.

S. C. Hudson,
Director-General,
Economics Branch.

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COMMODITY REVIEW

GENERAL ECONOMIC SITUATION OUTLOOK

The Canadian economy in 1966 continues strong following a year in which vigorous growth in all of the major sectors was realized. Prospects of continuing this growth throughout 1966 are good but some signs of strain are appearing. Price increases have revealed that there are shortages of certain resources such as skilled labour and capital in several areas of the economy.

The Gross National Product for 1965 is estimated to be $51 billion, a 9½ per cent increase compared with the previous year. Very substantial growth in business fixed capital purchases and high levels of consumer expenditure characterized the rapid expansion in the G.N.P. during 1965. Government outlays during the first three quarters of 1965, especially by provinces and municipalities, were above those of the same period of 1964. Employment opportunities were excellent during the past year with the unemployment rate down to 3.9 per cent, the lowest annual rate since 1956. This contributed to the higher levels of personal income which in turn helped to stimulate the rising demand for domestic and foreign goods and services.

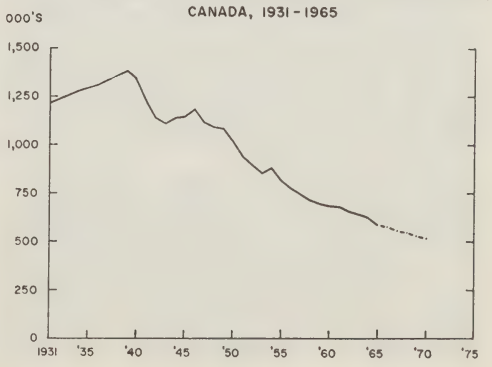
While quarter-to-quarter changes in new residential construction were negligible, outlays for 1965 were well above the previous year. Exports rose only moderately over 1964's high levels and the adverse balance on current international transactions was less favorable.

Industrial Production—The seasonally adjusted index of industrial production (1949=100) stood at 242.2 in the last month of 1965, 7.8 per cent above the level for December 1964 and about 34 per cent above the figure for the same month in 1961 when the current expansion first began its upward climb. All three major components of this index showed gains over the December 1964 index with mining up 6.3 per cent and manufacturing and electric power and gas utilities up by 7.9 per cent and 10.5 per cent, respectively.

The seasonally adjusted index for durable manufactures (1949=100) totaled 226.5 in December and non-durables stood at 203.4 up 10.6 and 5.3 points respectively, compared with the previous December. Production of motor vehicles and parts and gains in most of the iron and steel product industries contributed to the substantial advance made in the manufacturing of durables. The post-war average rates of increase were exceeded in most major industries.

Employment—In January 1966, 6.7 million workers in the labor force were at work. There were 359,000 unemployed, a substantial seasonal increase of 92,000 from December. There was little change in agricultural employment from December, but the 460,000 workers in agriculture fell below last January's total by 58,000. Thus, at the beginning of 1966, only 7 per cent of the employed labor force was working in agriculture. In January 1961, towards the end of the past business recession, 10 per cent of the employed labor force constituted agricultural workers. The number of workers in agriculture has been steadily declining since 1954, a year in which there was a slight upsurge in farm workers. The peak employment of Canadians in agriculture occurred in 1939 when there were 1.4 million workers. Since 1954, workers have been leaving the farms to find jobs in the cities and towns at an average of about 25,000 per year. If present trends continue, there will be only half a million workers in agriculture by the early 1970's.

TOTAL NUMBER OF WORKERS EMPLOYED IN AGRICULTURE, CANADA, 1931-1965



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Income and Expenditure—Seasonally adjusted wages, salaries and supplementary labor income was estimated at $2,238 million during October 1965; 12 per cent above October 1964. Wages and salaries in the agriculture, fishing and trapping industries totaled $20.8 million in October, slightly above the previous October level of $20.3 million. Indicative of the substantial increase in income in the non-farm, non-fish sector was the gain in average weekly wages and salaries. The industrial composite wage rose to $93.58 a week, a gain of $1.31 over September and $5.11 in the year. Farm wages showed a 7 per cent gain in the twelve-month period ending in August 1965, indicating that farm wages are rising also to meet the competition from the non-farm sector.

Higher incomes have spurred larger expenditures on consumer goods and services. Comparing November 1965 with the same month in 1964, sales of chain stores increased by 13 per cent, department store sales by 12 per cent and sales by wholesalers were up by 16 per cent. These gains, however, include price increases. Retail sales in general increased to $19.3 billion during the eleven-month period to the end of November, up 7 per cent compared with the same period last year. The retail sales value of motor vehicles alone amounted to $3.4 billion during this period, about 11 per cent above the sales value in 1964.

Investment—Business outlays on plant and equipment were considerable in 1965. In the third quarter of the year, expenditure on new non-residential construction amounted to $1,285 million and investment in new machinery and equipment approached one billion dollars. These figures represent seasonally adjusted gains during the first three quarters of 1965 of 27 per cent and 13 per cent, respectively, compared with the same period in 1964.

Prices—The consumer price index (1949=100) moved up to 142.1 in February 1966 which was 3.6 per cent above the index of one year earlier. All of the major components showed gains in this period but the 7.1 per cent increase in the food index and 3.2 per cent in clothing contributed significantly to the rise. The higher level for the food index was due to general price increases for most foods, especially for fats (including butter), meats, fish, poultry and vegetables.

Increased prices for animal products were primarily responsible for the advance in the general wholesale index (1935-39=100) in December to 255.5, up 0.7 per cent from the previous month and 3.9 per cent above the December 1964 index. Year-to-year gains were noticeable also for non-ferrous metal products and chemical products.

The December 1965 index of prices received by farmers (1935-39=100) stood at 274.7, 30.7 points above December 1964. Nearly all the commodities in the index showed increases in prices. Prices paid by farmers moved up, too, but well below the pace set by farm prices received. The index of prices paid, exclusive of farm family living (1935-39=100) was at 326.8 in August, 4.4 per cent above year earlier levels.

Commodity Trade—Canadian consumers bought considerably more foreign-made goods in 1965. Imports of commodities totaled $7.8 billion for the first eleven months of 1965, 15 per cent more than in the comparable period in the previous year. In this period imports from the United States and Britain climbed by 17 per cent and 7 per cent, respectively, compared with 1964. Commodity exports rose 5 per cent over the same eleven-month period of 1964. On the whole, Canada's trade balance with all countries was reduced substantially in 1965 from the previous year, from $739.5 million to $88.4 million for the January-November 1965 period.

J. T. Hill

GRAINS AND FEEDS

Marketings and Prices—Weather has played a significant part in grain marketing during the 1965-66 crop year. The weather on the prairies at harvest time was persistently cool and wet. Consequently, much of the crop was tough or damp and maximum use of drying capacity at the terminal elevators is being made. Drying operations will continue until well after the reopening of navigation in April.

Snowslides in the Rockies held up grain shipments to the Pacific Coast elevators for days, as both main railway lines were blocked in January. The threat of more slides remains, especially as the snow melts in the spring.

Bitterly cold weather prevailed across the prairies this winter, with all-time record low temperatures in mid-February. In early March the worst blizzard in history hit the south-eastern part of Manitoba, with near-hurricane force winds, snowfall of up to two feet in a 36-hour period and below-zero temperatures. These weather conditions have hampered the movement of urgently needed grain, to and from country elevators.

The unusual marketing conditions in the movement of western grain from farms to ocean vessels has been the chief feature of the 1965-66 crop year to date. In a year when sales commitments for wheat are at an all-time high level (the Canadian Wheat Board expects to see over 600 million bushels of wheat and flour cleared for overseas destinations

before the end of July), other grains and oilseeds using the same facilities have been moving at greater volume than usual. As a result the handling capacity of the grain collection and distribution system is being tested to the full. On the other hand, pressure on storage capacity has been much less noticeable. March 1st stocks of wheat in visible positions are at their lowest level in a dozen years.

The movement of such a huge volume of grain traffic calls for great care in its scheduling, and for the utmost co-operation of all concerned. The Canadian Wheat Board carries the major responsibility. The Board must ensure that adequate quantities of the proper grades of grain are available in the right position at the right time. In years of smaller export movement this task is comparatively routine but not this crop year. In order to obtain the full co-operation of all agencies involved the Board convened a transportation committee last fall that was instrumental in maintaining a rapid flow of grain to the Lakehead until the outward movement there was halted for the winter season. When the activity at the Pacific Coast ports slowed down in late December and January a coordinating committee, the Pacific Grain Transportation Committee, was appointed. By mid-February the tempo at the coast elevators had picked up considerably, and car unloads were the highest for any single month except January 1964. Ocean clearances from Vancouver during February were higher than in any other February in the history of the port.

Grain prices have been moving upwards throughout the crop year. Mid-month asking prices, basis in store at the Lakehead, are shown in the following table for the 1965-66 crop year.

	No. 1 Northern Wheat	No. 2 C.W. Oats	No. 3 C.W. Six row Barley	No. 2 C.W. Rye
	dollars per bushel			
August	1.93 1/4	.83 3/8	1.27 1/4	1.23
September	1.93 1/4	.85 3/8	1.31 1/2	1.23
October	1.95	.86 1/2	1.31	1.23 7/8
November	1.95 1/8	.85 1/2	1.30 3/8	1.22 5/8
December	1.95 3/8	.86 1/2	1.31 3/4	1.26 5/8
January	1.99	.86	1.31 1/2	1.40 1/4
February	2.01 7/8	.89 1/4	1.33 3/4	1.38 1/2

On February 4 the price of No. 1 Northern Wheat went over the $2.00 mark for the first time since January 28, 1965. At the end of February, price quotations for wheat, oats and barley were at the crop year peak, and the market looked stronger as each new high level was registered.

The Canadian Wheat Board announced the final payment for 1964-65 wheat deliveries on February 25, 1966. The total amount distributed amounted to $200,107,082, which is the second highest final payment ever made by the Board. The final payment averaged 38.2 cents per bushel.

On February 14 the United States Government notified the International Wheat Council that they would not file an objection to a further one-year extension of the 1962 International Wheat Agreement. The way was thus cleared for the current Agreement to be extended by Protocol and a new expiry date of July 31, 1967 has been established. Other provisions of the 1962 Agreement remain unchanged.

World demand for wheat continues strong, with heavy buying by the U.S.S.R. and Mainland China under their agreements and trade with Japan and Europe maintaining a fast pace. The food shortage in India has further increased the demand for food cereals. Canada has supplied 125,000 tons of wheat, as a gift as part of the effort to help India.

The 1965 crop harvested in the Southern Hemisphere has been smaller than in 1964, further decreasing wheat supplies available for export.

With the considerable pressure for imports of wheat and other grains and shortages in the Australian and Argentine crop, prices in export markets have strengthened. Winter-kill in the European soft-wheat producing areas is reported to have been fairly extensive and prices can be expected to rise further.

With a good export demand for oats and a strong demand for feed grains within Canada compared with generally lower supplies in relation to livestock numbers and high livestock prices, there has been a tendency for feed grain prices to rise above the levels of recent years.

Developments in the United States—In the United States, the wheat program for 1966 contains those features first introduced in 1964, but differs in certain details.

The essential features of the U.S. wheat policy for 1966 are: a three price system, acreage restriction, government storage, and food for needy countries. The new program will operate from July 1, 1966 for 4 years and is of particular interest for its likely effect on production, stocks, exports and world market prices.

The national average price-support loan rate will be equivalent to $1.35 per bushel for all farmers who participate in the program. (All prices quoted in this paper are in Canadian dollars) Participation involves the diversion of an acreage equal to 15 per cent of the wheat allotment of each participant's farm. The national allotment represents 47.8 million

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acres, plus 4 million acres for small farms. Each farm has a domestic marketing allocation based on 45 per cent of the "projected yield" for that farm. For this allocation the farmer receives domestic marketing certificates equal to the difference between the $1.35 and parity as at July 1966. (In November 1965 parity equalled $2.76). The extra $1.41 or so will include 81 cents to be paid by the millers and the remainder will be a Government subsidy.

Wheat not covered by domestic marketing certificates will sell at market prices or at the Commodity Credit Corporation support price of $1.35. For export wheat there will be a variable export certificate adjusted daily to an amount necessary to make U.S. wheat available at prices comparable to world market prices. If world prices are higher than U.S. prices (that is $1.35 at farm) exporters will pay a tax; if below, exporters will receive an export subsidy. Receipts and subsidies will be pooled and any net receipts apportioned pro rata at the end of the marketing year to the farmers.

At current world price levels, net receipts from the pool seem unlikely to provide any distribution to farmers. Nevertheless, guaranteed returns from sales in the domestic market will be higher and on balance producers are expected to receive an average between $1.97 and $1.99 per bushel compared with $1.83 in 1965, $1.87 in 1964 and $2.16 in 1963.

The provision of unlimited government storage is an important aspect of this program but decreased acreage, larger exports both on a commercial basis and as a food aid and increased feeding of wheat to livestock at the lower support price level have reduced stocks considerably. In the last few years about 70 per cent of U.S. wheat exports were on a concessional basis and by the 1964-65 season had reached a peak of 500 million bushels a year. The new mechanism for price support with marketing certificates and a low loan rate first introduced in 1964 relieves the government of much of the cost of this part of the wheat program, so that over-all, there is a budgetary saving while returns to farmers are maintained.

In his message on "Food for Freedom" on February 10,1966, President Johnson explained the way in which he proposed to develop and expand the U.S. food aid program which grew originally out of the need to dispose of the large surplus accumulation. In addition to expanding food shipments to needy countries, the surplus concept is to be eliminated and U.S. agricultural production geared to producing for these needs as well as domestic requirements, commercial exports and adequate reserves.

In line with these announcements, adjustments have been made to the wheat program. As originally planned, participating farmers could direct more than the minimum acreage of 15 per cent and receive special payments (as payment is received on the 15 per cent which simply qualifies the farmer for price support and marketing certificates). When signing up for the program (farmers have until April 1 for main wheat area and April 15 for spring wheat area) encouragement is now being given to plant up to the limit of acreage allotments and not to divert beyond the required minimum. As farmers often sow more land than they market under the programs for winter wheat and as spring wheat seeding time is not yet over, up to 2 million acres more wheat than originally planned could be harvested within the price support program in 1966.

Another significant development is the phasing out of the foreign aid sales for local currency as permitted under Title I of P.L. 480. Under this scheme a foreign country received wheat but instead of paying U.S. dollars, paid its own currency into special accounts which were then used for development projects in that country or to meet U.S. commitments such as Embassy costs. The bulk of concessional wheat moved under this scheme, but the recently introduced Title IV with a system of long term loans is now to form the main basis of payment. The loans will be up to 40 years, the interest rates low, and no repayments for as long as 10 years. Thus while requiring the foreign country to think seriously about earning more foreign exchange the repayment terms are not onerous.

This new program is designed to provide supply management features through which U.S. farmers can receive adequate income from wheat. The government should also be able to avoid the encumbrance of larger carry-over stocks and at the same time improve the competitive position of the United States in commercial export markets without the use of large export subsidies. The ability to adjust acreage allotments each year could enable supplies to be kept in line with commercial and food aid needs. The effects on world prices will have to await the detailed operation of the export pricing system and the export supplies coming forth from other wheat producing countries.

G. A. Hiscocks and J. W. Channon

LIVESTOCK

Hogs

Gradings—Hog gradings in Canada, in 1965 totaled 7.1 million head, down 2.8 per cent from gradings in 1964. Gradings for January and February 1966, averaged 125.0 thousand head per week, down 16 per cent from weekly gradings of 148.3 thousand during the same period of last year. For the first

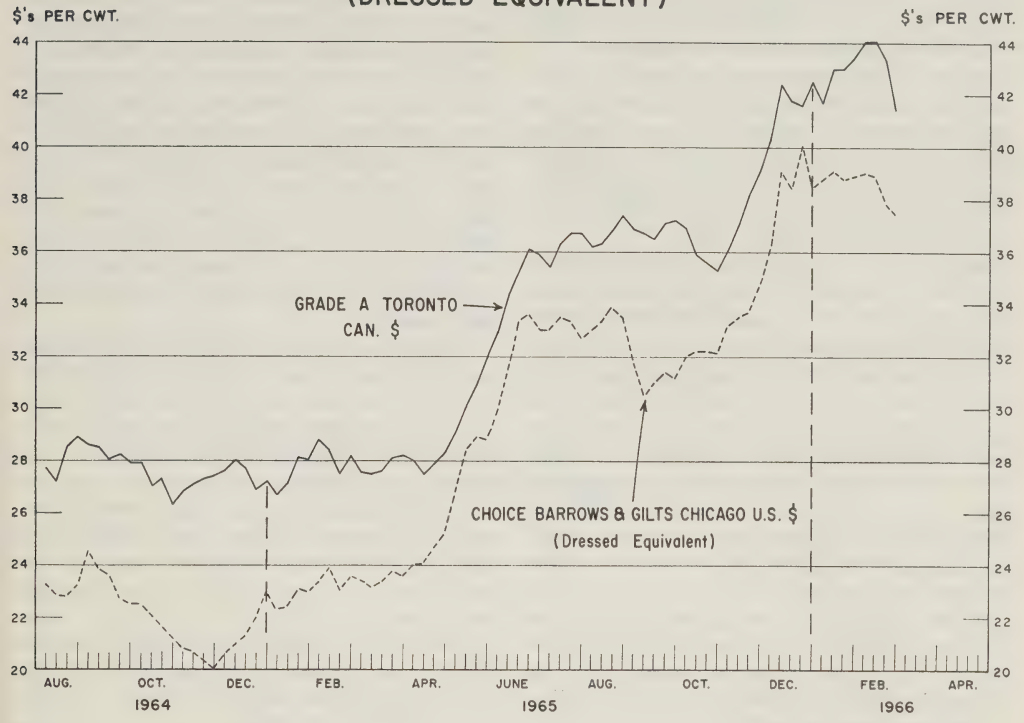


Figure 1

eight weeks of this year, gradings in Western Canada were down 26 per cent and in Eastern Canada down 9 per cent. In Eastern Canada, hog marketings during this period accounted for 63 per cent of the Canada total, compared with 58 per cent during the corresponding period in 1965. This reflects the sharp reduction in hog slaughter in the Prairies that began in late 1965.

External Trade—Exports of pork to the U.S. from Canada during 1965 totaled 49.4 million pounds compared with 45.9 million in 1964. Imports of pork during January are estimated at 1.1 million pounds, compared with 2.2 million in January 1965. Exports also declined from 4.8 million pounds in January 1965 to 4.1 million in January of this year.

Prices—Grade A hog carcasses at Toronto averaged $33.40 per hundredweight for 1965, up $6.10 from 1964 and the highest annual average price on record. In both Canada and the United States, hog prices increased sharply during May and again in November (Figure 1). The major reason for the sharp advance in May was the 8 per cent cut in pork production in the U.S. during the early part of 1965. After mid-October production ran 20 per cent under the year before with the result that U.S. hog prices increased again in November. Hog prices in both countries reached weekly highs during December 1965.

Prices of hogs continued strong into 1966. Grade A hog carcasses for the month of January averaged $42.73 at Toronto, and $39.07 at Calgary. During the month of February prices for Grade A hogs continued to edge upward and averaged $43.19 per hundredweight at Toronto and $39.94 at Calgary. At Chicago, prices of choice barrows and gilts during January and to mid-February remained firm, averaging slightly over U.S. $29.00. By the first week of March prices of choice barrows and gilts at Chicago had dropped about $1.00 per hundredweight.

Hogs on Farms—The Dominion Bureau of Statistics reports that on December 1, 1965 there were 5.1

million hogs on farms in Canada, a reduction of 8 per cent from the numbers at the same time a year ago. Numbers in Eastern and Western Canada declined 2 and 16 per cent respectively, from year earlier totals. All provinces except Prince Edward Island and British Columbia showed decreases.

In the United States the January 1 livestock inventory released by the U.S.D.A. reports that hogs on farms totaled 51.2 million head, down 4 per cent from a year ago. In the Corn Belt States, January 1 numbers were down 5 per cent from a year earlier. This reduction was partially offset by a 2 per cent increase in the Southern States.

Outlook in the United States—According to the U.S.D.A., the number of hogs on farms at December 1 weighing 120-179 pounds, which likely will be marketed by the end of March, were down more than 11 per cent. Hogs that will be providing the bulk of the spring slaughter supplies, that is, the group weighing 60-119 pounds, were down 8 per cent while those weighing less than 60 pounds, which will be marketed in early summer, were down less than 4 per cent. Slaughter could be down even more than is indicated as producers continue to retain gilts for expansion. Hog producers in the United States reported on December 1 that they intend to have 6 per cent more sows farrow during the December 1965 to May 1966 period than in the year earlier period. If these intentions are realized, under the assumption that the number of pigs saved per litter follows past trends, an increase of 7 per cent is likely in the 1966 spring pig crop. This would be a smaller pig crop than in the spring of 1963 and 1964.

Based on the June-November 1965 pig crop, which was down 5 per cent, hog slaughter in the U.S. will continue at a reduced level until mid-1966. It is significant that November was the only month of the June-November hog survey to show an increase, 5 per cent, in the number of sows farrowed. Thus, hog prices during the first half of 1966 will average well above year ago levels. Hog slaughter rates also are expected to go above year earlier levels during late summer and fall months in response to a 7 per cent increase expected in 1966 December-May pig crop. Prices are expected to weaken in the second half when the effect of the current expansion is felt. Hog prices could fluctuate around $25.00 on 200-220 pound barrows and gilts at Chicago throughout the first three quarters and drop to about $20.00 in the fourth quarter.

In view of the continued strong prices, the spring pig crop could increase by more than the 7 per cent predicted. Producers could be setting their sights a little higher than indicated, with the result that the 1966 spring pig crop could increase as much as 10 per cent or more.

Outlook in Canada—At December 1, hog producers reported that they planned to farrow 566.5 thousand hogs in the December 1965 to May 1966 period, or about 10 per cent more than in the corresponding period last year. Western and Eastern farrowing plans were 9 and 11 per cent larger respectively. All provinces reported increases. If these intentions are realized, total weekly marketings for the last half of 1966 could average 137,000 head, an increase of 7 per cent over the last half of 1965. Average weekly marketings for the first and second quarters of 1966 are estimated at 133.9 and 130.1 thousand head per week respectively.

Thus, in both Canada and the U.S. reduced hog marketings for the first half of 1966 are in prospect with increased marketings in the last half. In addition to the domestic supply and demand situation, hog prices in Canada will continue to reflect the situation in the United States. In Canada, hog prices in 1966 will probably average higher than in 1965. Hog prices during mid-summer should trend upward and may even reach new record levels with fall prices likely to average moderately lower than year earlier levels.

Briefly, the 1966 hog outlook in both Canada and U.S. is good. However, experience has shown that hog farmers seldom realize more than two highly favorable years in succession.

A. M. Boswell

Cattle

Slaughter—Cattle slaughter in federally inspected plants in 1965 reached an all-time high of 2,734.5 thousand head, 13 per cent more than in 1964. Most of the rise in slaughterings consisted of cows and heifers, this class accounting for 95 per cent of the increase of 312,254 in total slaughter of cattle.

Cattle slaughter in federally inspected plants during January and February 1966 averaged 52,824 head per week, 5.5 per cent more than the weekly average of 50,061 head for the same period in 1965, but 6.5 per cent below the November and December average of 56,500 head per week. Although cattle slaughter remains relatively high for this time of year, marketings of the top two grades, averaged 25,318 head per week to February 26 of this year, down 7 per cent from the weekly average of 27,136 for the corresponding period last year. The proportion of good and choice cattle to total slaughter in

this period was 48 per cent, compared with 54 per cent last year. During February 1966, cow slaughter continued strong and was 34 per cent above the same month last year, heifer slaughter was 19 per cent above but steer slaughter was down 15 per cent.

Exports and Imports—Beef cattle exports to the United States in 1965 totaled 453,819 head, 57,788 for slaughter and 396,031 for feeding, compared with exports of 118,052 in 1964. In early 1966, exports of slaughter and feeder cattle to the United States continued strong and to February 26 totaled 42,609 head compared with 10,120 during the same period last year. There were no imports of slaughter cattle from the United States in 1965 whereas to February 26 of this year, 487 head were imported. For the month of January 1966, exports of beef and veal were about 7.6 million pounds compared with 3.5 million for the same month last year.

Prices—In both Canada and the United States, fed cattle prices have trended upward since the late fall of 1965 (Figure 2). Throughout much of 1965, until about the last week of October, Canada remained on an "export basis". For the week of October 24, choice steers at Toronto averaged $23.62 per hundredweight and U.S. $23.52 at Omaha. Since then choice steer prices at Toronto have increased more rapidly than at Omaha with the result that Canada was approaching an import situation in February. For the week of February 12 choice steers at Toronto averaged $28.50, compared to U.S. $26.82 per hundredweight at Omaha. At Calgary prices for choice steers also increased, from $21.00 per hundredweight for the week of October 24 to $26.30 for the week of February 12.

PRICE PER HUNDREDWEIGHT OF CHOICE STEERS AT TORONTO & OMAHA

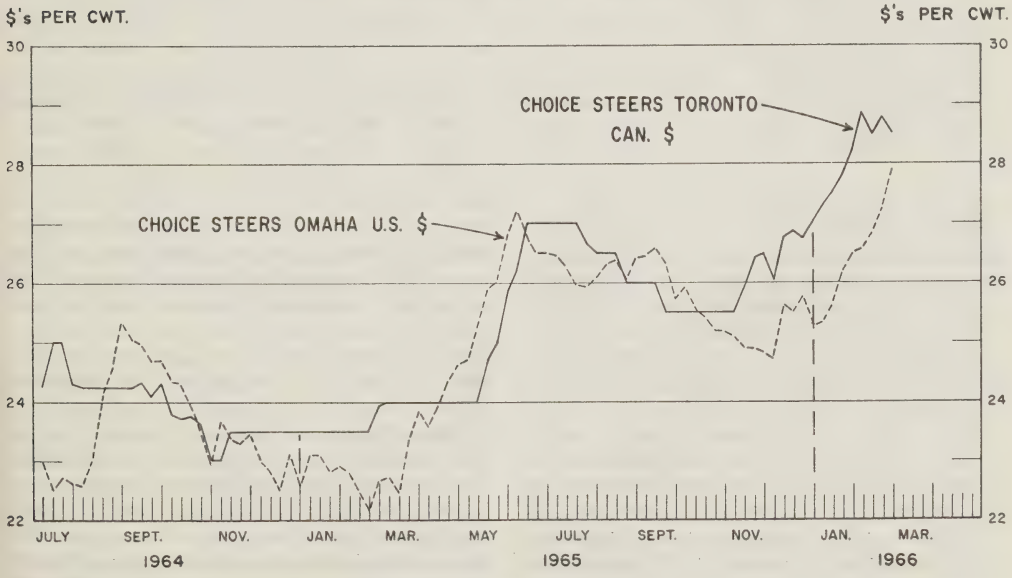


Figure 2

Feeder cattle prices remained relatively stable throughout the fall of 1965 with little seasonal decline. Prices, however, increased in the first weeks of 1966. At Calgary good feeder steers averaged $25.80 for the week of February 19, and at Omaha U.S. $24.75 per hundredweight. The gap between prices of feeder steers and choice slaughter steers is narrowing (Figure 3). They probably will get closer throughout the winter and spring of 1966 since feeder prices likely will continue to move upward.

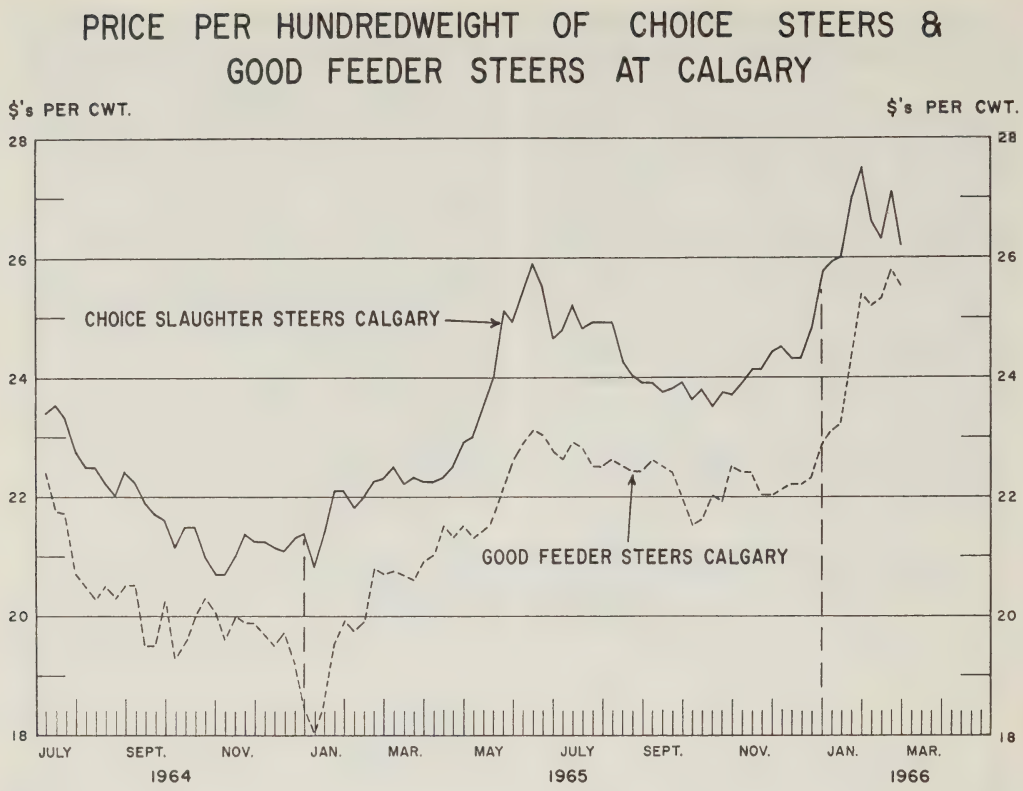


Figure 3

Numbers on Farms—According to the Dominion Bureau of Statistics there were 11.6 million cattle and calves on farms in Canada on December 1, down 2.2 per cent from the year earlier total. Numbers declined in both Eastern and Western Canada by 2.5 and 1.9 per cent respectively. Beef cow numbers increased by 1.0 per cent while dairy cow numbers declined 1.5 per cent. The largest decline in beef and dairy numbers was in yearling heifers, down 5 and 8 per cent respectively. The number of steers declined less than 1.0 per cent and the number of calves declined 4 per cent. The reduction in cattle numbers on farms December 1 could well mark the beginning of the down-turn of the cattle cycle which began its rise seven years ago.

According to the U.S.D.A. the inventory of cattle and calves on farms at January 1 was 106.6 million head, down 1.0 per cent from a year earlier. This decline follows seven consecutive years of increase. The number of steers over one year old on farms showed a 6 per cent increase from a year earlier and reflects the sharp increase in cattle imports from Canada and Mexico. The number of beef heifers over one year old was down 2 per cent while beef calves numbered 2 per cent more than one year before. The number of beef cows on farms, at 32.6 million head, was practically the same as the year before.

Outlook—In the United States there were 5 per cent more cattle and calves on feed in 32 major feeding states on January 1, than a year ago. A breakdown of the cattle on feed by weight groups was as follows: under 500 pounds, down 4 per cent; 500-699 pounds, up 8 per cent; 700-899 pounds, up 12 per cent; 900-1,099 pounds, up 1.0 per cent; and 1,100 pounds and over, down 7 per cent. The number of heifers and steers on feed increased by 12 and 2 per cent respectively from January 1, 1965.

Marketings of fed cattle in the April-June 1966 quarter were expected to be larger than during the spring quarter of 1965, probably as much as 7 to 9 per cent above. Cattle on feed in the 700-899 pound weight group will account for much of the spring slaughter supply. Fed cattle marketings during the summer and fall are expected to average close to year earlier levels. Factors which will affect the total

beef supply during the months ahead are: number of beef heifers held for breeding, the placement of cattle on feed, non-fed beef supply and weights at which fed cattle will be marketed. Cow slaughter is expected to decline in the months ahead. The increase in number of heifers on feed is expected to limit beef output whereas an increased weight of fed cattle could exert pressure on prices. With a smaller slaughtering of cow beef, production and consumption could very well be down in the last half of 1966.

Fed cattle prices in the U.S. are expected to average slightly higher this year than in 1965, with choice steers at Omaha ranging from U.S. $26.00 to U.S. $27.00. Prices may weaken some during the spring when fed cattle marketings are expected to increase. Summer prices should move higher but this will depend to a large extent on the non-fed beef supply and winter and spring placements on feed. The latest information according to the U.S.D.A. Crop Reporting Board indicates a 13 per cent increase in the number of stockers and feeders shipped into eight North Central States during January 1966 compared to the same month a year ago.

In Canada fed cattle marketings in 1966 may be below those in 1965. Feeder cattle exports to the United States increased sharply in 1965 with exports including an unusually high proportion of feeder heifers. Placements of feeder cattle in Eastern Canada during January and February 1966 were lower than in the same period last year while in the West some increase was indicated. Forage supplies in Eastern Canada are down whereas in the West large supplies of feed grains are available. For January and February, marketings of choice and good grades were down 12 per cent in the East, 3 per cent in the West, and 7 per cent for Canada.

Cattle prices in North America throughout much of 1965 were such that Canada remained on an "export basis", with choice steers at Toronto averaging $25.20 per hundredweight and at Omaha U.S. $25.00. Exports of beef and veal to the United States in 1965 increased sharply from 26.8 million pounds in 1964 to 69.4 million in 1965, with a sharp increase in boneless beef from an increased volume of boning cows in Canada. The price situation in early 1966 reflects the supply and demand for fed cattle. In 1966 fed cattle prices will continue to be tied closely to those in the United States but the relationship may be somewhat reversed with the result that Canada may import fed cattle sporadically.

Unlike past periods of downward adjustment in the cattle inventory cycle, prices have remained strong and are expected to continue at high levels in Canada in 1966. Some of the strengthening factors which are currently affecting the price of fed cattle are: less pork produced, less non-fed beef produced, and increased consumer demand. The extent to which cows and heifers are held back for herd replacements also influences price levels. In Canada, cow slaughter in federally inspected plants increased from 595 thousand head in 1963 to 639 thousand in 1964 and 842 thousand head in 1965. In the United States cow slaughter under federal inspection increased substantially from 4.2 million head in 1963 to 5.3 million in 1964 and 6.6. million head in 1965. One of the important factors in deciding whether beef cows are kept on farms is the price of feeder calves. Feeder calf prices were relatively low throughout much of 1964 and 1965 but in February showed a marked increase. Thus, there is likely to be a considerable drop in cow and heifer slaughter in the next two years. The result should be favorable cattle prices on the North American continent in 1966 and 1967.

A. M. Boswell

FARM CASH INCOME IN THE DAIRY SECTOR

Jurisdiction—The Federal and Provincial Governments share the responsibility for legislation respecting the dairy industry. The provinces have exclusive jurisdiction over the fluid milk trade which is confined, with few exceptions, to provincial territory. This provincial authority is derived from the British North America Act of 1867.

Provincial fluid milk legislation varies, but common features are: (1) licensing and inspection of processing facilities, (2) regulation of the fluid milk trade by quality standards, and (3) supervision of marketing quotas and powers to administer producer and wholesale prices and, in some instances, retail prices. It is this power to determine the returns to producers for fluid milk which sets this segment of the dairy industry apart from the manufacturing milk sector.

The Federal Government has jurisdiction over the market for manufactured dairy products to the extent that products move interprovincially and into export markets. The Canada Department of Agriculture and the Food and Drug Directorate of the Canada Department of Health and Welfare enforce standards for grading, composition and packaging. Inspection and licensing of manufacturing establishments are handled by provincial authorities and the Federal Government registers those factories which comply with provincial requirements.

Fluid Milk Sales and Income—Provincial authorities are able to set producers' prices for "fluid milk" at levels considerably above those obtainable for

manufacturing milk. This is accomplished by price administration and marketing control. The mechanism by which the supply is controlled is complex, but usually involves the registration of fluid producers and the establishment of a marketing quota for each individual producer in a given milkshed. Any milk which is marketed by "fluid producers" in excess of fluid requirements is diverted into the market for manufacturing milk.

The income of producers who ship to a fluid milk market is largely determined by the quantity shipped and by the administered prices for fluid milk. A smaller part of total returns is derived from excess milk which is taken at much lower prices by manufacturing plants. In 1963, a typical year, fluid milk producers were estimated to have realized $263 million or 51 per cent of the total farm cash income from the sale of milk and cream. It is noteworthy that fluid milk producers realized half of the Canadian farm cash income from dairying from about 39 per cent of total Canadian farm sales of milk. This was because of the higher average unit value of fluid milk but more important is the fact that this substantial part of the income was shared by approximately 12 per cent of the farmers who kept herds for milking purposes (Table 1).

This disparity of opportunity to participate in the fluid milk market has concerned provincial governments. For example, British Columbia, following the report of the British Columbia Royal Commission on Milk, 1954-55, has administered a system of milk pooling since September 1956. Recently (June), the Government of Ontario promulgated the Milk Act 1965 under which the Province intends to move towards pooling of milk for fluid and manufacturing use.

These developments are likely to indicate the path of future changes in other provinces. If fluid milk in the "bottle" and manufactured products utilize one and the same milk, then the current qualitative price distinction between fluid milk and manufacturing milk is likely to disappear.

Manufacturing Milk Sales and Income—About half of the farm cash income from the sale of milk and cream is earned by about 88 per cent of farms with dairy cows who, as a group, sell 61 per cent of the milk. The average sales by manufacturing milk farms are considerably lower than for fluid farms, approximately 40,000 pounds compared with about 183,000 pounds for fluid milk farms. It is the manufacturing milk producers who are the principal recipients of federal dairy price support.

TABLE 1—ESTIMATED SOURCES OF FARM SALES OF MILK, CANADA, 1963

Shippers	Farmers		Volume of Sales		Cash Income	
	numbers	per cent	billion lb.	per cent	million dollars	per cent
Fluid Milk	35,000	12	6.4	39	263	51
Manufacturing	70,000	25	5.1	31	147	29
Cream	178,000	63	4.9	30	100	20
Total	283,000	100	16.4	100	510	100

Sources of data:
(1) Shippers:—Total number in 1963 estimated by reducing the 1961 total of 309,000 by 13,000 per year for two years, i.e. 26,000. (13,000 was the trend between 1956 and 1961).
—Fluid shippers: Estimates from provincial Ministers' of Agriculture reports and C.D.A. estimates.
—Manufacturing shippers: based on 1962-63 listing of eligible manufacturing milk shippers by the Agricultural Stabilization Board (A.S.B.)
(2) Farm Sales: Total is from D.B.S.; manufacturing is from A.S.B. records; fluid is D.B.S. plus estimate of fluid surplus; cream is balance.
(3) Farm Cash Income: Total is from fluid sales plus estimate of fluid surplus; manufacturing is estimated for whole milk used in butter less fluid surplus plus D.B.S. estimate of cheese and concentrated milk; cream is balance.

Federal Dairy Support Program—The dairy support program is administered under the authority of the Agricultural Stabilization Act of 1958 which replaced the Agricultural Prices Support Act of 1944 and created the Agricultural Stabilization Board (A.S.B.) as the agency to administer the provisions of the Act. The stated purpose of the Act is to stabilize prices of agricultural commodities in order to assist producers in realizing fair returns for their labor and investment and to maintain a fair relationship between prices received by farmers and the costs of goods and services that they buy.

Under the Agricultural Stabilization Act (1958), the Government guaranteed price support for nine mandatory products, including creamery butter and cheddar cheese, at levels of not less than 80 per cent of the base price of these mandatory products. The base price is defined as the average of the most recent ten years.

Basically, the federal price support program for dairy products established a floor price for butterfat through an "offer-to-purchase" program for creamery butter and cheddar cheese, which was supplemented by payments on milk and/or butterfat and also

export aid. The offer-to-purchase program for butter and cheese was a continuing feature of the dairy programs in effect between 1958 and 1965. However, changes were made in supplementary programs. Between May 1959 and April 1963 the Agricultural Stabilization Board made a fixed payment of 25 cents a hundredweight for manufacturing milk. In the subsequent two years this payment was limited to milk used in cheddar cheese but raised to 30 cents a hundredweight.

The dairy program covering the 1965-66 dairy year included the 12-month period ending March 31, 1966. In contrast with previous years, this program incorporated a deficiency payment which assured producers of manufactured milk a national average price of $3.30 a hundredweight for that portion of their sales which was used domestically. The cost of export aid for the year will be deducted from the deficiency payment fund before distribution to farmers.

The 1965-66 program, as indicated, included an offer-to-purchase for creamery butter and cheddar cheese. The price support for cheddar cheese which had been 32.5 cents a pound in 1963-64 was increased to 35 cents for 1965-66. Butter price support was accomplished through a combination of the offer-to-purchase program with a fixed payment on butterfat. The Agricultural Stabilization Board purchased and sold creamery butter at 55 cents a pound (since Jan. 7, 1966, the selling price was raised to 57 cents a pound). Added to this was a fixed payment to producers (equivalent to 9 cents per pound of butter) which brought the support level for butterfat used in creamery butter to the equivalent of 64 cents per pound of butter (since Jan. 7, 1966 to 66 cents per pound of butter).

The 1965-66 program incorporated a supplementary payment, which was authorized under a separate statute (Appropriation Act of 1965, No. 6, July 21, 1965). This payment was graduated according to deliveries during the preceding marketing year, payable during the 1965-66 dairy year, and averaging about 20 cents a hundredweight.

Amount of Federal Support Payments in Relation to Farm Cash Income—Government assistance to the dairy industry becomes part of the total return which producers receive from dairying. However, there is not one single method which can be relied upon to demonstrate exactly the proportion of farm cash income which is derived from government transfer payments. There are a number of reasons for this.

First, the methods of price support have changed over the years. Some of the aid given to the industry was a part of the producer's price; some was in the form of fixed payments on milk or other dairy products; and a considerable portion of the aid was granted indirectly through the purchase and storage program of the government. Thus, it is difficult to estimate what farm cash income from dairying would have been without government aid, and likewise, the proportion generated by government funds. The only possible comparison which can be made at the present time is that between farm cash income and total government expenditures for the dairy price support programs.

The most readily available source of information on the annual expenditures by the Government on the dairy support program are the reports of the Agricultural Stabilization Board. These reports account in detail for the net cost of the annual operations of the various programs but do not include interest on capital, nor the relatively smaller costs of the Agricultural Products Board. Also, it would be quite unrealistic to relate the net operating cost for any one year to the farm cash income of that year. The reason for this is that the A.S.B. has acquired stocks of butter over a number of years which were sold in later years. The resulting net loss of this operation was part of the net loss shown for the years in which the stocks were sold and not the years in which the butter was purchased for price support. Further limitations to a comparison of price support measures and farm cash income lie in the fact that it is difficult to evaluate the monetary value of such things as import restrictions, research, credit, and the many production and marketing services which also assist the dairy industry. However, since no significant change occurred in these areas in recent years, the most important single factor which influenced the returns to dairy farmers was the dairy price support program.

In the early fifties, the annual net costs of the price support operations averaged less than one million dollars, but rose to over four and a half million dollars between 1955 and 1957. In May 1958, the Government raised the butter support price from 58 to 64 cents a pound and the average support expenditure increased to almost fifteen million dollars, annually, between 1958 and 1961. In the years which followed, the butter subsidy was introduced and the Government disposed of butter

stocks and the annual average cost rose to about seventy-seven million dollars (Table 2).

TABLE 2—FARM CASH INCOME FROM DAIRYING AND NET COST OF THE FEDERAL PRICE SUPPORT PROGRAM WITH RESPECT TO THE DAIRY INDUSTRY

	Farm Cash Income From Dairying			Net Cost of Price Support Program[a]
	Total milk	Fluid milk	Manufacturing milk	
	calendar years			fiscal years
	thousand dollars			
1950	342,965	165,525	177,440	1,566
1951	387,899	180,016	207,883	4
1952	381,485	182,366	199,119	147
1953	398,883	192,084	206,799	712
1954	410,922	198,065	212,857	1,512
1955	423,375	207,453	215,922	5,303
1956	432,536	218,394	214,142	4,711
1957	448,736	218,343	230,393	3,871
1958	479,674	223,103	256,571	8,023
1959	490,037	223,082	266,955	21,471
1960	486,529	223,696	262,833	14,152
1961	495,852	220,727	275,125	15,629
1962	499,576	221,289	278,287	59,703
1963	509,812	224,295	285,517	117,208
1964	530,983	234,492	296,491	53,960

[a] Net operating cost of the Agricultural Stabilization Board plus Cheese Quality Premiums, but not including costs under the Agricultural Products Board.

Perhaps the most practical approach would be to relate total cumulative expenditure during the years 1958 to 1964 to the total cumulative farm cash income from manufacturing milk during this period (see table below).

A simple calculation reveals that government payments to the dairy industry averaged about one-fifth of the total farm cash income earned by manufacturing milk producers during the seven years, 1958 to 1964.

The extent of this support to producers of manufacturing milk can be set in further perspective if it is compared with the probable net income from dairying. Studies of farm income suggest that on dairy farms the net farm income amounts to about one-third of the gross income.

Changes in the Structure of the Dairy Industry—A criticism which is often levelled against farm support programs in general and dairy support programs in particular, is that they perpetuate inefficiencies in production. The dairy industry today is undergoing very rapid adjustments and the aggregate data presented do not show these developments. The census of agriculture to be taken in 1966 is likely to disclose a very substantial decrease in the number of farm holdings with milk cows. At the present we can only compare the previous two census years 1951 and 1961 and note that dairy farms declined by 32 per cent to 309 thousand in 1961. Since the number of cows remained nearly unchanged at about 2.9 million head, the average size of herd rose from 6.5 cows in 1951 to 9.7 cows a farm in 1961. In addition, milk production per cow rose from 5,150 pounds a year in 1951 to 6,360 pounds in 1961. The increase in herd size and the gain in output per cow has enabled dairy farms on the average to double milk production (from 33,475 pounds in 1951 to 71,900 pounds in 1961) per farm. This vigorous consolidation of herds into larger units will likely have continued. Increasing specialization and the change to larger and fewer herds often means better managed herds yielding more milk per cow and has resulted, no doubt, in greater returns to farmers in this category.

Other Earnings Associated With the Dairy Herd—A factor which is sometimes overlooked is that the dairy herd is making a substantial contribution to the supply of beef. The "canner and cutter" grades of slaughter animals in Ontario and Quebec are largely of dairy origin, but less appreciated is the fact that through cross breeding with beef type bulls and more intensive feeding techniques, many calves born to dairy cows qualify for medium and top quality grades. About half of the cow population in

	Total 1958 to 1964	Annual Average
	thousand dollars	
(1) Cumulative farm cash income from manufacturing milk, D.B.S. 1958 to 1964 (7 years)	1,921,779	274,539
(2) Estimated return to fluid producers for excess milk used in manufacturing	189,000	27,000
(3) Farm Cash Income from Manufacturing Milk, excluding fluid surplus	1,732,779	247,540
(4) Net cost for dairy price support program (Net Cost of A.S.B. plus cheese quality premium, but not including costs of Agricultural Products Board)	290,145	41,450
(5) Farm Cash Income from Manufacturing Milk without A.S.B. Payments (3)−(4)	1,442,634	206,090
(6) A.S.B. payments as percentage of Farm Cash Income (4)÷(5)	20.1%	

Canada are dairy animals. After allowing for the replacements of milk cows, the extra calves and the culled cows enter the beef market. During 1965 the culling of dairy cows resulted in a 1.4 per cent decline in the dairy herd to 2,796,000 head on December 1, 1965, with dairy heifers being down 8 per cent. The income from the sale of beef which originated from dairy cows was estimated to be $250 million or 39 per cent of the total farm cash income from cattle and calves in 1964.

A third factor in the dairy farm income picture is the export of grade and purebred dairy cows. During the past five years, an average of 16,000 grade and 22,000 purebred cattle brought an average of $12 million annually in export markets, mainly in the United States, South America and Europe. Therefore, when attempting to assess the income accruing to milk producers, it is not sufficient to consider only that income arising from milk sales, including dairy price support payments. Income from sales of beef and breeding stock is also important in their total income structure.

H. J. Mestern and D. M. McKay

THE 1963–65 EGG PRODUCTION CYCLE IN PERSPECTIVE

From a near-record low, egg prices in Canada during 1965 reached the highest levels in ten years. The sharp rise in price reflected the change in the egg industry as it turned from an ample supply situation to a relative shortage.

This cyclical movement of prices and production is generated by the interaction of price with a relatively stable demand for eggs and a fluctuating supply. As long as the price of eggs is largely determined by the current supply of eggs and supply is largely determined by the preceding price, the cyclical movement of prices and production will continue. Because demand for eggs is fairly steady throughout the year a small percentage change in supply can produce a much larger percentage change in price. Experience during 1960-65 indicates that a one per cent increase in supply is associated with about a four per cent decline in producer prices. However, there have been years of relative stability when production kept pace with demand so that price fluctuations within the year stemmed mostly from the seasonal characteristics of the production of eggs. In other years the cyclical movement of egg production and prices has been more marked. The most recent cycle, starting in 1963, was etched with unusual clarity. In fact, not since the 1953-55 cycle have the swings in production and price been so pronounced.

In terms of the national weighted average price to producers for all grades the 1963-65 cycle can be charted from the peak price of 41.9 cents a dozen in September 1963. This price and the October price of 41.3 cents were the highest recorded for this price series since 1956. Only a few months later, in May, 1964, a near record low of 21.8 cents a dozen occurred.

From April, 1964 there ensued a period of twelve consecutive months in which each monthly weighted average price was the lowest for that month in the preceding five years. Although prices did move up in this period, from May to September 1964, the movement was an entirely seasonal increase and provided little relief from the low level established in May. Weakness continued to characterize the market when prices started their seasonal downturn in September, two months earlier than usual. In January 1965, the weighted average price reached a seasonal low of 21.7 cents a dozen.

By March 1965, the market started to gain strength with prices fluctuating around average levels at mid-year and then rising strongly in the latter months of the year. By October, the weighted average price reached 45.7 cents a dozen, nearly equalling a previous high of 46.6 cents a dozen established in November 1956.

Some of the stimulus to higher production which precipitated the 1963-65 cycle came from high prices in the latter months of 1963. More important than this, however, were the longer term price trends in the egg market which had created an atmosphere favorable to expansion.

From 1950 to 1959 egg prices were trending lower each year. Seasonal and cyclical swings in price became progressively smaller so that by 1957 and 1958, considerable stability in price, relative to a few years earlier, had been achieved. In 1959 and early 1960, prices moved to still lower levels and in January 1960 reached a record low of 17.7 cents a dozen. That month marked the lowest point recorded for the weighted average price and the end of the downturn in prices which had lasted a decade.

In 1960 and the three subsequent years a modest uptrend in price became noticeable. Annual fluctuations in the price level were somewhat greater than they had been in the late 1950's but extreme prices were absent. The weighted average price in the falls of 1960, 1961 and 1962 was at seasonal peaks close to 40 cents a dozen. During the other seasons it ranged from 25 to 35 cents. In 1963 the uptrend of prices became more pronounced. Only in two months of that year did the weighted average price drop below 30 cents. In the spring and fall the price moved to somewhat higher levels than usual reaching 35.8 cents a dozen in March and 41.9 cents a dozen in September. These high seasonal prices in late

1963 against the background of rising longer-term egg prices, spurred many producers to place an unusually large number of pullets during the latter part of 1963 and early 1964 thus setting the stage for overexpansion of production with sharp reductions in price.

The high prices reached again in late 1965 seems to be inducing a build-up of layer numbers. There were 15 per cent more egg-type pullet chicks placed during the latter half of 1965 compared to the same period in 1964. Although the number of hens and pullets of laying age in December 1965 was 97 per cent of the year-earlier level, the margin was diminishing. Pullets in the two-to-six-month age range were 91 per cent of the number a year before but chicks under two months were over 30 per cent above year before numbers.

The analysis of structural changes in the industry throughout the production cycle is complicated by a lack of suitable data. Superficially, it would appear that the industry, under stimulus of higher prices simply adds pullets to the laying flock and while under the stress of depressed prices merely allows normal cullings with reduced replacement to trim flock sizes. Data from sample surveys suggest that this is a somewhat over-simplified picture. The sample data consists of month-to-month paired ratios of change in the number of layers in small flocks (fewer than 500 birds) and large flocks (over 500 birds) in Ontario. A significant flock-size factor interaction is indicated in these data.

During the second half of 1963 the number of layers in large flocks increased by 5 per cent in July, 8 per cent in August and 2 per cent in September. In the same half year the number of layers in small flocks increased by 19 per cent in August and continued to make smaller increases for the remaining four months of the year. These increases in numbers of layers in small flocks were sufficient to depress egg market prices.

Despite depressed prices continuing throughout 1964, seasonal additions to flocks were made during the year to both flock size groups. The largest percentage addition to large flocks in 1964 was 5 per cent in July. Owners of small flocks on the other hand made additions to the number of layers of 10 per cent in August, 8 per cent in November and lesser additions in the three other months.

In 1965 the pattern of seasonal additions to small flocks was similar to that of 1964 but the size of the increase, in percentage terms, was less. Large producers in apparent anticipation of the short supply expected before year-end started expanding flocks in May and continued at a modest pace for the remainder of the year.

The survey data have been used to calculate an index of the number of layers in each size of flock from January 1963 to December 1965 in order to appraise the cumulative effect of the month-to-month changes. The index for large flocks showed that the number of layers reached a peak in November 1963, lagging the September peak in prices by two months. Thereafter the number of layers in large flocks trended downward throughout 1964 and the early part of 1965, reaching a low point in April. The upturn starting in May, predated by several months the short supply situation that developed in the last quarter of 1965.

The index of small flocks traces a movement that appears entirely seasonal in character but does not show any trend or cyclical pattern of production. In the three years charted, the index revealed a liquidation of flock numbers starting at each year-end and reaching a low each July. Following July, layer numbers were increased until the year-end liquidation started.

The indexes for the two size groups show that by November of 1963 both had about 2 per cent more layers than in January of that year. As prices worsened from this date, liquidation of layers increased in large flocks. By December 1964 the number of layers in large flocks was 16 per cent below January 1963 but the number of layers in small flocks had increased by 9 per cent. In April 1965, the end of the period during which the large flocks were being liquidated, the number of layers was 25 per cent below the January 1963 level. Small flock numbers however, were down by only 2 per cent in the same period. By December 1965, the large flocks had been rebuilt almost to their year earlier level. Small-size flocks were one per cent above their January 1963 level but several percentage points below that of December 1964.

Some tentative conclusions may be suggested. The number of layers in small-size flocks appears to be responsive to high prices but unresponsive to low prices. Replacement of layers in small flocks seems to be governed chiefly by seasonal considerations of the physical production cycle although there is some ground for suggesting that the small producer will initially seek to offset lower prices by expanded production which, in the aggregate, only worsens the price situation. On the other hand the number of layers in large flocks shows some responsiveness to high prices but extreme responsiveness to low prices. By responding to the shortage of supply expected in the second half of 1965 by rebuilding flocks as early as May, large producers were responding to anticipated price increases.

One complication to this simplified picture of the price-response of egg supply is the changing relationship of the number of eggs marketed through registered egg grading stations to total production of eggs. Roughly one half of the total production of eggs in Canada is marketed through registered egg grading stations. This proportion has been changing over the years. From 1949 to 1955 the proportion moved downward from 54 per cent to 44 per cent. In the ten years after 1955 the proportion increased from 46 per cent to 54 per cent.

The annual increases in the proportion of eggs sold through registered grading stations since 1955 have not been stable and appear to be related to the level of over-supply of eggs. During years in which production, marketings and prices were relatively stable, the proportion of production that passed through egg grading stations was also relatively stable. In years of increased production and lowered prices, the proportion passing through grading stations increased markedly. In 1964, for example, production increased by 20 million dozen eggs or five per cent from 1963 while marketings increased by 25 million dozen, or 12 per cent. As registered egg grading stations are usually looked upon by the trade for supply and price information, it is possible that in periods of higher production, marketings through these channels may unduly influence egg prices.

L. C. Allen

PRICES OF SELECTED FARM PRODUCTS, 1965-1966

	Unit	1965	January		February	
			1965	1966	1965	1966
				dollars		
CATTLE						
Choice Steers, delivered to public stockyards, Toronto	cwt.	25.20	23.50	27.74	23.60	28.72
Good Feeder Steers—delivered to public stockyards, Calgary	cwt.	21.95	18.97	23.83	20.39	25.48
LAMBS						
Good—delivered to public stockyards, Toronto	cwt.	26.70	26.80	30.90	27.92	30.99
HOGS						
Grade "A"—delivered to public stockyards, Toronto	cwt.	33.40	27.44	42.73	28.23	43.19
Grade "A"—delivered to public stockyards, Edmonton	cwt.	28.35	22.65	39.05	23.74	40.05
CREAMERY BUTTER						
Canada First Grade, wholesale at Montreal	lb.	0.543	0.530	0.570	0.528	0.570
CHEDDAR CHEESE						
Canada First Grade, Quebec White, wholesale at Montreal	lb.	0.391	0.380	0.402	0.380	0.408
EGGS						
National Average Producer Price—for all grades	doz.	0.314	0.217	0.320	0.221	0.340
POTATOES						
To growers in New Brunswick	165 lbs.	5.03	5.21	3.08	4.94	3.28

PRODUCTIVITY TRENDS IN CANADIAN AGRICULTURE 1935 TO 1964

I. F. Furniss

This paper is a report on the trends in agricultural productivity in Canada during the period 1935 to 1964, including a comparison with United States agriculture. The trends in farm productivity in Canada have been measured by constructing indexes of total output and total inputs. The term "productivity" as used in this paper is defined as the ratio of the index of output to the index of inputs with both indexes based on constant dollars. Laspeyre's weighted aggregative formula was used in the construction of the indexes.

GROWTH IN PRODUCTIVITY

Agricultural productivity in Canada has been increasing at an estimated annual rate of 2.2 per cent since 1935. This is the result of an average increase of 1.9 per cent in the volume of output and a fractional decrease of 0.3 per cent a year in the volume of inputs. Since 1946, the rate of growth in productivity has increased to 2.6 per cent a year, the result of an annual growth in output of 1.95 per cent and a decline of 0.5 per cent each year in total inputs. In 1964, the productivity ratio is estimated at 154 (1949=100), 103 per cent above the 1935-39 ratio and 57 per cent higher than in 1945-49 (Table 1). The trend in agricultural productivity has closely paralleled the growth and fluctuations in total output (Figure 1); the peaks in the productivity ratios occurring in the same periods as the peaks in total output.

TABLE 1—INDEXES OF OUTPUT AND INPUTS AND PRODUCTIVITY RATIOS, CANADIAN AGRICULTURE, 1935 to 1964 (3-YEAR MOVING AVERAGES, 1949 = 100)

Period or Year	Farm Output	Production Inputs	Productivity
1935-39	80	105	76
1940-44	102	95	108
1945-49	100	102	98
1950-54	115	97	118
1955-59	122	95	129
1960	123	94	131
1961	129	94	137
1962	136	95	144
1963	145	95	152
1964[a]	147	96	154
1960-64	136	95	144
		per cent	
Growth rates:			
1935 to 1964	1.9	−0.3	2.2
1946 to 1964	1.95	−0.5	2.6

[a] 2-year averages, 1963-64.

The figures given in Table 1 and in Figure 1 are expressed as 3-year moving averages to smooth out the wide annual fluctuations which occur in total farm output from exogeneous factors (to productivity) such as weather, plant disease and other factors. On an annual basis, peaks in output occurred in 1942 and 1952. However, since 1952, the volume of output in that year has been surpassed by the output in 1956 and in all years 1962 to 1964. (*1*)

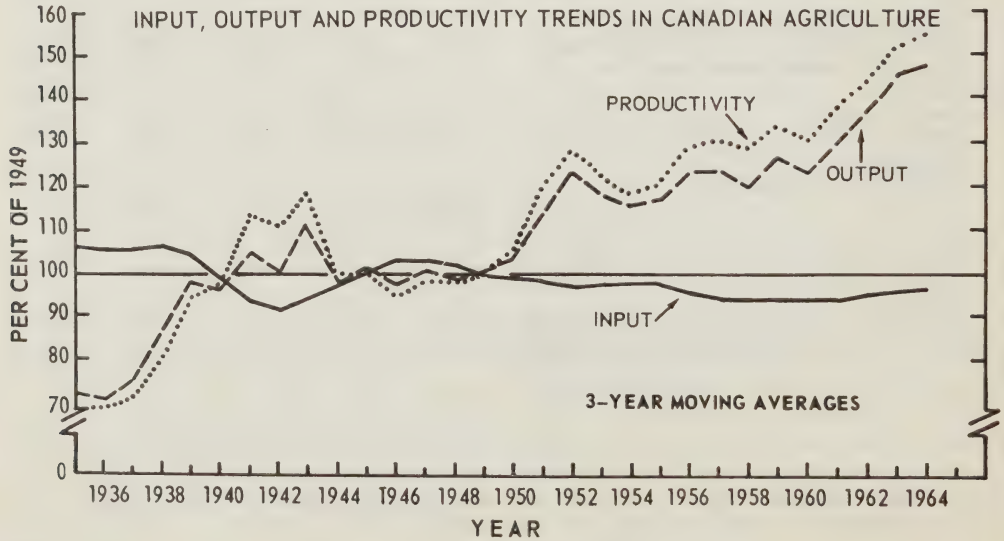


Figure 1

CHANGING COMPOSITION OF INPUTS

Major changes have taken place in the input mix in Canadian farming since prewar and, as evidenced by the estimates for the years 1960 to 1964, the changes are continuing but at a slower rate (Table 2). In 1935-39, labor made up 63 per cent of total inputs, real estate about one-fifth and capital (all other measurable inputs) 16 per cent. In 1960-64, labor comprized less than one-third of the total input mix, real estate was less than one-quarter and capital inputs represented 45 per cent of the total.

A breakdown of the capital inputs by major categories provides further insight about the changing input mix. As proportions of total inputs, since 1935-39 machinery and equipment inputs have increased two and three-quarters times; purchased feed and seed inputs have tripled; fertilizer and limestone inputs have tripled (since 1940-44); and miscellaneous (all other measurable capital inputs) have doubled. Since 1945-49, the most important increase in relative terms has been in fertilizer and limestone inputs—by three times. Over this period, machinery and equipment inputs have increased in relative importance in the total input mix by almost 70 per cent.

TABLE 2—DISTRIBUTION OF INPUT GROUPS, CANADIAN AGRICULTURE, 1935 TO 1964 (1949 PRICE WEIGHTS)

Period or Year	Labor	Real Estate	Capital (Other Inputs)				
			Machinery and Equipment[a]	Purchased Feed and Seed	Fertilizer and Limestone	Misc.[b]	Total Capital
1935-39	63	21	8	4	—[c]	4	16
1940-44	55	21	10	8	1	5	24
1945-49	50	20	13	11	1	5	30
1950-54	43	21	19	9	2	6	36
1955-59	36	23	21	11	2	7	41
1960	33	24	21	12	2	8	43
1961	32	24	22	12	2	8	44
1962	32	24	22	12	2	8	44
1963	31	24	22	12	3	8	45
1964	30	23	23	12	3	9	47
1960-64	31	24	22	12	3	8	45

[a] Includes fuel and other purchased items associated with machinery operation.
[b] Electric power, livestock purchases, interest on other livestock, fruit and vegetable supplies, pesticides, livestock treatments, veterinary expenses, twine, irrigation charges and other miscellaneous purchased inputs.
[c] 0.4 per cent.

The decrease in the labor input in agriculture has been largely compensated for in the total input mix by increases in other inputs, although total inputs have decreased by about 10 per cent from 1935-39 to 1960-64 (Table 3). The decrease in the labor input has been about 55 per cent in the same com-

TABLE 3—INDEXES OF INPUTS BY MAJOR CATEGORIES, CANADIAN AGRICULTURE, 1935 TO 1964 (1949 = 100)

Period or Year	Labor	Real Estate	Capital (Other Inputs)							
			Machinery and Equipment[a]	Livestock[b]	Purchased Feed and Seed	Fertilizer and Limestone	Electric Power	Misc.[c]	Total Capital	Total Inputs
1935-39	137	112	52	102	41	34	22	61	53	106
1940-44	106	101	64	111	78	51	33	77	72	94
1945-49	104	102	88	106	118	56	71	100	98	102
1950-54	85	105	122	118	95	106	189	103	112	97
1955-59	69	111	130	139	117	116	323	105	125	95
1960	63	114	130	153	121	134	410	107	129	93
1961	62	114	132	163	123	154	425	114	133	94
1962	61	116	134	154	119	167	454	114	133	94
1963	59	116	139	162	123	187	464	122	139	95
1964	57	114	142	181	130	222	472	127	146	96
1960-64	61	115	135	162	123	173	445	117	136	95

[a] Includes fuel and other purchased items, associated with machinery operation.
[b] Livestock purchases through commercial channels and interest on livestock investment.
[c] Fruit and vegetable supplies, pesticides, livestock treatments, veterinary expenses, twine, irrigation charges and other miscellaneous purchased inputs.

parison. Real estate inputs also decreased somewhat over part of the 30-year period being studied, reaching a low point in 1940-44. However, by the year 1959, the index of real estate inputs, after being below the average for the 1935-39 period, rose fractionally above that average. In 1960-64, real estate inputs averaged about 2 per cent more than in 1935-39. The increase in capital inputs (all other inputs than labor and real estate) has been over two and a half fold. The increases in volume for the various capital groupings have been as follows: Machinery 2.6; livestock 1.6; purchased feed and seed 3.0; fertilizer and limestone 5.1; electric power 19.9, or 6.3 since 1945-49; and miscellaneous (excluding electric power) 1.9 times.

One of the most significant changes over the periods being reviewed has been the substitution of farm produced inputs with inputs from the non-farm sector of the economy (Table 4). Farm produced (non-purchased) inputs comprize the interest and depreciation on farmers' capital stock in land and buildings, livestock, machinery and equipment. They also include the farm operator's labor and any "unpaid" family help. Purchased inputs are those inputs obtained on an annual basis from the non-farm sector and include repairs for buildings and machinery, property taxes, fuel, oil and other machinery requirements, purchased feed and seed (from non-farm sources), fertilizer and limestone, electric power, purchased livestock (from non-farm sources) and various other supplies and services. In this paper, production credit costs are not included as inputs.

Since 1935-39, farm produced inputs have decreased 38 per cent and purchased inputs have risen by 86 per cent. The rate of decline in non-purchased inputs since 1935 has been 1.8 per cent annually while purchased inputs have increased 2.6 per cent each year. Since 1945-49, there has been a decrease of 28 per cent in non-purchased inputs and an increase of 38 per cent in purchased inputs. The annual rate of change since 1946 has been —2.2 per cent for non-purchased inputs and +1.9 per cent for purchased inputs.

In the prewar period, non-purchased inputs made up over three-quarters of total inputs. In 1960-64, the proportion was down to almost one-half of the total, 53 per cent. (*2*) This changing pattern has a number of significant implications for agriculture but the principal ones are the growing dependence of farming on production credit and the increased inter-dependence of the agricultural and non-agricultural sectors. It means also that the farm economy is more vulnerable to changes in the non-farm sector, especially in the farm supply and processing industries.

TABLE 4—INDEXES AND DISTRIBUTION OF PURCHASED AND NON-PURCHASED INPUTS, CANADIAN AGRICULTURE, 1935 TO 1964 (1949 PRICE WEIGHTS)

Period or Year	Purchased Inputs	Non-Purchased Inputs	Purchased Inputs	Non-Purchased Inputs
	1949=100		per cent of total inputs	
1935-39	74	120	23	77
1940-44	80	101	27	73
1945-49	100	103	31	69
1950-54	111	91	36	64
1955-59	126	80	43	57
1960	132	75	45	55
1961	136	75	46	54
1962	136	74	47	53
1963	141	74	48	52
1964	146	73	49	51
1960-64	138	74	47	53
		per cent		
Growth rates:				
1935 to 1964	2.6	—1.8	—	—
1946 to 1964	1.9	—2.2	—	—

LABOR PRODUCTIVITY

Labor productivity or net output per man is defined here as the ratio of the index of gross domestic product (GDP) to the labor force indexes. Net output per man in agriculture since 1935 has increased at a rate of 4.3 per cent annually (Table 5). Since 1946, the growth rate has been 5.0 per cent. In the manufacturing sector, the growth rate over the 1935 to 1964 period has been 2.2 per cent; since 1946 the rate has been 2.6 per cent. (*3*)

The changes are the result of differing economic

TABLE 5—TRENDS IN REAL GROSS DOMESTIC PRODUCT PER MAN EMPLOYED IN CANADIAN AGRICULTURE AND MANUFACTURING, 1935 TO 1964 (1949=100)

Period	Agriculture	Manufacturing
1935-39	81	83
1940-44	114	94
1945-49	98	96
1950-54	146	109
1955-59	184	127
1960-64	218	145
	per cent	
Growth rates:		
1935 to 1964	4.3	2.2
1946 to 1964	5.0	2.6

Source: D.B.S., *Indexes of Real Domestic Product by Industry of Origin 1935-61* (1949=100), Cat. No. 61-505 and *Monthly Index of Industrial Production*, March 1965 Supplement, Cat. No. 61-005. The indexes of Real Gross Domestic Product as published in the above sources were divided by the indexes of employment for the respective sectors to obtain real gross domestic product per man.

forces. Output per man in agriculture has increased principally through a decrease of 51 per cent in the farm labor force from 1935-39 to 1960-64, although total output has also risen. In manufacturing, the labor force has increased by 112 per cent and the volume of output by almost 270 per cent. In farming, capital inputs in the form of machinery, especially, have been substituted for labor. While the substitution of capital for labor is still going on in agriculture, the rate of substitution has slackened very noticeably since 1958.

PRODUCTIVITY TRENDS IN CANADIAN AND UNITED STATES AGRICULTURE

Since much of the technology which is applied to Canadian farming arises partly in the United States, a comparison of the trends in agricultural productivity in the two countries is useful (Figure 2). There are many similarities, too, in Canadian and United States farm output but the larger agricultural base of the latter country tends to dampen annual fluctuations in the volume of total output. Even when the data for Canada are smoothed by use of a 3-year moving average, noticeable peaks and troughs occur in output because of the weight which the western grain crop carries in the total output index. United States farmers are competitors, too, for Canadian farmers in export markets, and especially the North American market. For this reason, alone, farm productivity in Canada must equal or better United States farm productivity.

The rate of growth in Canadian farm productivity since 1935 has been 2.2 per cent annually compared with 1.6 per cent for United States farming. Since 1946, the rate of growth in productivity has been somewhat higher in Canada, about 2.6 per cent as compared with 1.4 per cent in the United States. In contrast with the slightly declining trend in Canadian farm inputs, United States farm inputs have increased fractionally over the 30-year period, about 0.3 per cent annually, but since 1946 there has been virtually no change in the volume of United States farm inputs. The importance in the Canadian farm output pattern of wheat growing, which lends itself to extensive mechanization and the use of other specialized inputs such as herbicides, appears to be a predominant factor contributing to the greater growth rate of Canadian agriculture as a whole over the particular periods reviewed. The importance of maintaining this lead, however, cannot be over-emphasized, if Canadian agriculture is to compete effectively in world markets. (*4*)

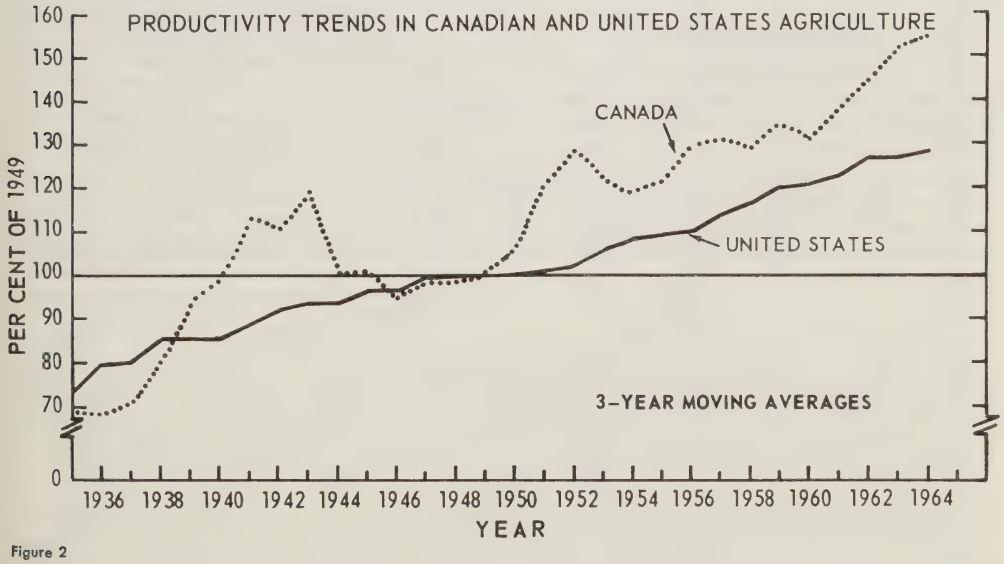


Figure 2

SUMMARY AND CONCLUSIONS

Agricultural productivity in Canada appears to have been increasing at an annual rate of about 2.2 per cent during the 30-year period, 1935 to 1964. Concomitantly, total output has increased 1.9 per cent but total inputs are down fractionally. In 1964, purchased and non-purchased inputs were almost equal in volume; but in 1935-39 purchased inputs were only 23 per cent of the total inputs.

Labor productivity in agriculture compares very favorably with that for the manufacturing sector. Gross domestic product per man in farming has increased about 4.3 per cent annually since 1935 as compared with 2.2 per cent for manufacturing.

Productivity in Canadian agriculture compares favorably also with that for United States agriculture. In the 30-year period under review, the rate of growth has been 2.2 per cent for the former as compared with 1.6 per cent for the latter country. Since 1946, Canada appears to have increased its lead somewhat.

This paper has been an examination of the overall trends in total Canadian farm output, inputs and productivity. The situation appears bright when compared with several yardsticks, including the Canadian manufacturing sector and United States agriculture. This generally favorable situation for Canadian agriculture as a whole tends to mask the intra-industry trends; trends which have not been considered here. Overall trends in Canadian farming are heavily weighted by the trends in western Canadian grain growing; about three-quarters of the nation's improved farmland is in the Prairie Provinces. Hence, regional trends or those for selected types of farms, such as dairying, must be expected to differ from the national trends.

ACKNOWLEDGEMENTS

The farm output index used in this paper was prepared in the Farm Finance Section of the Agriculture Division of the Dominion Bureau of Statistics especially for this study. The estimates of farm operating expenses, also prepared in this Section, were used in calculating the input index with certain adjustments. Unpublished indexes of farm property taxes were obtained from the Prices Division of the D.B.S.

NOTES AND REFERENCES

(*1*) This paper is a continuation of the work of the Economics Branch in measuring productivity trends in Canadian agriculture. The first report appeared under the title: "An Enquiry into the Relationships Between Changes in Over-all Productivity and Real Net Return per Farm . . ., Canadian Agriculture, 1926-1957", by S. H. Lok. The second report was published in the *Canadian Journal of Agricultural Economics,* Volume XII, No. 2, 1964 under the title: "Productivity of Canadian Agriculture, 1935 to 1960", by I. F. Furniss. Various notes by the same and other authors have appeared in the *Canadian Journal of Agricultural Economics* relative to the problems of measurement of productivity changes in agriculture.

The indexes for Canada of output and of inputs as reported in this paper are aggregations by provinces of the physical output and inputs without adjustments for interprovincial movements. The output index, therefore, differs conceptually from the "Index of Farm Production" published annually by the Dominion Bureau of Statistics. Both indexes, however, are a measure of the total physical volume of output as contrasted with the index of gross domestic product which is a measure of net output and therefore more adapted for measuring trends in labour productivity.

Several modifications in procedure have been introduced since last publication. In measuring the labor input, the labor force estimates, based on all annual surveys, rather than just the June survey, are now used. Also intercensal revisions of the labor force estimates for the years 1956 to 1963 have been introduced. The original estimates apparently underestimated the total numbers. In 1960, for example, the revised estimate was higher by 1.2 per cent, or 8,000 persons (this estimate includes self-employed veterinarians and their technical and clerical help). A second modification was a change in the price weight base for the input index to coincide with that for the output index. The major effect of this change in price weight base has been on the relative importance in the total input structure of purchased feed inputs. In 1958, feed prices were about 5 per cent below the average for the period 1956-60. In 1949, feed prices were about 4 per cent above the average for the period 1947 to 1951. The price base period selected affects the relative weights of each input in the total input index when such an index is constructed by the constant dollar method.

All growth rates or rates of change over the periods 1935 to 1964 and 1946 to 1964 were calculated by fitting a straight line trend using the least squares method to the index numbers and then using the compound interest formula. This procedure will usually give a somewhat smaller rate of change than if calculated by averaging the annual percentage changes, even when these are based on 3-year moving averages. The degree of difference will be related to the year-to-year variability within any time series.

(*2*) In this comparison, interest on rented land and buildings and depreciation on rented buildings were included with farm produced inputs. If the interest and depreciation inputs on rented farm land had been included with the inputs from the non-farm sector, then non-purchased inputs would have comprised 73 per cent of the total in 1935-39 and 49 per cent in 1960-64.

(*3*) A study by the Dominion Bureau of Statistics (DBS Daily Bulletin, Oct. 12, 1965) determined the growth rate of net output (GDP) per person in the manufacturing sector to be 2.7 per cent for the period 1946 to 1964. Growth rates for the same time period in other sectors were: agriculture 5.3 per cent; commercial non-agricultural industries 2.3 per cent; commercial non-manufacturing, non-agricultural industries 2.0 per cent; and all commercial industries (including agriculture) 3.1 per cent. The small differences in growth rates are due to a different method of fitting the trend line. The rates were calculated in the DBS study by fitting a straight line to the logarithms of the index numbers (using the method of least squares).

(*4*) A comparison of the changes in productivity of United States and Canadian agriculture has been made also by G. A. MacEachern and D. L. MacFarlane in their paper *The Relative Position of Canadian Agriculture in World Trade,* presented to the Conference on International Trade and Canadian Agriculture, Banff, January 10-12, 1966, pages 97-99. The figures used in this report refer to 1953 and 1962 or 1964 productivity levels and utilize differing measures of output.

FARM CREDIT EXPANSION IN CANADA

R. S. Rust

Rapid adjustments in commercial farming are presently being made in order to maintain, develop or expand economic farm units. Farmers are becoming increasingly aware that unless continual adjustments are made which will foster the growth of their farm businesses, the economic farms of to-day may be the uneconomic units of tomorrow. Major farm adjustments are nearly always costly and with few exceptions make the increased use of credit inevitable. Not only is the total amount of credit used by farmers increasing but it is doing so at a time when the number of farms is steadily decreasing.

Expanding and changing farm credit requirements result in an increased need for farm credit statistics by credit suppliers, researchers, farm groups and international organizations. In many cases, requests for statistical information are associated with the development of farm credit policies. Farm credit data on both a national and regional basis are essential to the development of sound agricultural policies whether these policies are for governments, private credit institutions or farm supply company financing. Certain types of farm credit data are still incomplete. As a result only rough estimates can be made on credit extended and outstanding for these sources.

TABLE 1—ESTIMATED FARM CREDIT EXTENDED AND OUTSTANDING, 1963 AND 1964

Source and term of credit	Amount extended 1963	Amount out-standing 1963	Amount extended 1964	Amount out-standing 1964	Estimated interest charges	Estimated average interest rates[a]	Out-standing as a per cent of 1964 total
	millions of dollars					per cent	
Long term (over 10 years)							
Federal government agencies	111.6	451.2	154.4	559.2	28.52	5.1	21.2
Provincial government agencies	40.2	227.3	49.1	253.0	7.99	3.2	9.6
Private individuals[b]	40.0	316.0	40.0	316.0	15.80	5.0	12.0
Insurance, mortgage and trust companies	12.0	70.0	15.0	80.0	6.24	7.8	3.0
Industrial Development Bank	4.8	8.0	5.9	12.0	0.84	7.0	0.5
Treasury Branches (Alberta)	1.2	1.3	0.3	0.9	0.05	5.8	0.0
Sedco (Saskatchewan)[c]	—	—	0.1	0.1	0.01	7.0	0.0
Land companies[d]	—	1.1	—	1.0	0.06	6.0	0.0
Total long term	209.8	1,074.9	264.8	1,222.2	—	4.9	46.3
Intermediate term (18 months to 10 years)							
Supply company finance[e]	200.0	250.0	200.0	250.0	22.50	9.0	9.5
Banks (F.I.L.A.)	136.0	241.3	150.8	273.1	13.66	5.0	10.4
Credit unions[f]	68.0	100.0	75.0	122.4	11.02	9.0	4.6
Private individuals[b]	20.0	77.0	22.0	82.0	4.10	5.0	3.1
Provincial government agencies	0.2	1.0	0.3	1.0	0.04	4.1	0.0
Treasury Branches	0.2	0.2	0.3	0.3	0.02	5.8	0.0
Total intermediate term	424.4	669.5	448.4	728.8	—	6.9	27.6
Short term (up to 18 months)							
Banks (non F.I.L.A.)	406.6	305.0	577.5	433.0	26.85	6.2	16.4
Supply company finance[e]	300.0	200.0	300.0	200.0	20.00	10.0	7.6
Credit unions[f]	30.0	21.0	34.0	22.0	2.20	10.0	0.8
Private individuals[b]	3.0	2.0	3.0	2.0	0.10	5.0	0.1
Treasury Branches	14.2	10.1	12.5	9.3	0.60	6.0	0.3
Finance companies,[g] dealers, stores, etc.	55.0	22.0	60.0	23.0	3.45	15.0	0.9
Total short term	808.8	560.1	987.0	689.3	—	9.2	26.1
Total estimated credit	1,443.0	2,304.5	1,700.2	2,640.3	164.05	6.6	100.0

[a] Estimated actual rates of financing loans or obtaining credit. Rates charged by private individuals; insurance, mortgage and trust companies; finance companies; credit unions and farm supply companies are based on incomplete data. While bank loans for agricultural purposes are usually 6 per cent, actual rates on personal and car purchase loans increase the average.
[b] Outstanding amounts based on farm survey data, extended amounts are estimated from amounts outstanding.
[c] Saskatchewan Economic Development Corporation.
[d] Land companies no longer active.
[e] Includes all farm supply companies which directly or indirectly provide credit arrangements.
[f] Extended amounts based largely on estimates by provincial authorities.
[g] Includes household financing. This is probably underestimated.

Estimates of farm credit in Canada classified by length of term are presented for the years 1963 and 1964 in Table 1. The reader is cautioned that some of the estimates are based on limited information and that the classification by length of term can only be approximated. Loans are classified as short, intermediate and long term and represent time periods of up to eighteen months, from eighteen months to ten years and over ten years, respectively. Except where legislation limits loans to less than ten years, all government credit shown in Table 1 is in the long term classification. However, such credit may involve loans for less than ten years even though the legislation under which loans are made may allow a maximum repayment period of twenty or thirty years. Credit extended by the chartered banks under the Farm Improvement Loans Act may be for a period not exceeding two and one-half years for the purchase of farm trucks, five years for implements (including equipment and appliances) and up to ten years for other purposes. In addition the repayment period depends on the size of the loan. The relationship between the yearly credit extended and the yearly amount outstanding, the size of the average loan ($1,871 in 1964) and the fact that the purchasing of trucks and implements accounted for over 73 per cent of all loans in 1964 suggests that a considerable portion of the loans could be classified as short term. While the data in Table 1 may be compared with published estimates on farm credit for earlier years, it should be realized that a part of the increased amount of credit results from a more complete coverage of credit sources.

The data in Table 1 indicate that approximately $1,700 million in credit was extended to farmers in 1964 and that there was about $2,640 million outstanding at year-end. Comparable data for 1963 indicated $1,443 million was extended and $2,304 million was outstanding. Similar estimates for 1961 (*1*) indicated $1,250 million extended and $1,803 million outstanding. Of the $2,640 million outstanding in 1964, 46 per cent was estimated to be long term, 28 per cent intermediate term and 26 per cent short term. Of the estimated $2,640 million outstanding at the end of 1964, 27 per cent had been provided by banks, 21 per cent by federal farm credit agencies, 15 per cent by private individuals and 10 per cent by provincial farm credit agencies. These four groupings account for 73 per cent of the total. Of the credit extended during the year, approximately 43 per cent of the estimated $1,700 million total came from banks, 29 per cent from farm supply companies, 9 per cent from federal credit agencies and 6 per cent from credit unions. The balance is from a variety of other sources.

Outstanding credit provided by private individuals is shown in Table 1 to total $400 million at the end of 1964. The largest part of this is classified as long term. The amount was estimated from survey data but the length of term shown for this credit is to some extent arbitrary. It is known, however, that a large part of this indebtedness arises from land purchases and may therefore be judged to be repayable over a period greater than ten years. In the farm credit estimates for 1961, credit extended by farm supply companies was estimated at $507.5 million and the amount outstanding at the end of the year $334.5 million. While there are few new data available on credit received by farmers from this source it has become increasingly apparent that a significant amount of this type should be classified as intermediate term.

In Table 1, supply company credit extended and outstanding for both intermediate and short term categories are estimated to total $500 million and $450 million, respectively. In comparison with 1961 therefore, credit extended through this source decreased by $7.5 million and credit outstanding increased by $115.5 million. It is difficult to clearly separate farm supply company credit from that of household and personal finance companies, dealers, agents, storekeepers, and others. Credit from the farm supply group occurs only where there has been a purchase of production goods while credit from the latter grouping may or may not involve such purchases. In the present summary, the estimated credit outstanding by household and personal finance companies, dealers, agents, and others was only slightly higher than for 1961 due in part to a re-evaluation of the probable average length of credit terms. The estimated credit extended from this source for 1963 and 1964 exceeded that of 1961 by $31 million and $36 million, respectively.

Interest charges plus other financing charges on farm credit accounts for 1964 have been estimated at $164 million. Interest rates reported by farmers or by many of the credit suppliers frequently do not reflect the actual cost of credit. Insurance charges, carrying charges, discounts, rebates and the time when interest is paid are but a few of the many factors which contribute to the differences between quoted interest rates and the actual rates paid for the use of credit. As a general rule the shorter the term of credit, the higher will be the rate. While the amount of risk involved in making loans is also a factor, high rates may occur where there is very little risk involved.

All provinces have legislation which provide credit to farmers. However, the conditions under which

TABLE 2—FARM CREDIT FROM GOVERNMENT SOURCES, 1963 AND 1964

Source	Amount extended 1963	Amount outstanding 1963	Amount extended 1964	Amount outstanding 1964	Average interest rate	Average loan 1964
	millions of dollars				per cent	dollars
British Columbia	0.56	1.40	0.44	1.48	4.0	1,322
Alberta F.P.C.A.	2.10	14.00	2.45	16.01	5.0	8,277
Alberta H.L.L.A.	0.10	0.62	0.15	0.57	5.0	900
Alberta F.H.I.A.	0.06	0.24	0.04	0.21	3.5	1,890
Saskatchewan	0.95	5.35	0.67	5.71	6.5	19,601
Manitoba	3.77	20.35	4.74	24.41	5.0	19,129
Ontario	4.20	19.71	12.90	29.54	4.2	16,518
Quebec	25.45	154.26	25.10	162.24	2.5	8,162
New Brunswick, F.S.A. Part I	0.28	1.65	0.40	1.75	5.0	5,418
New Brunswick F.S.A. Part II	0.03	0.12	0.11	0.20	4.5	1,731
Nova Scotia	2.08	6.60	1.57	7.54	5.0	7,498
Prince Edward Island	0.53	2.60	0.44	2.90	5.0	4,975
Newfoundland	0.06	0.43	0.07	0.45	3.5	1,556
Total Provincial	40.17	227.33	49.08	253.01	—	—
Federal F.C.C.	96.32	341.17	139.75	443.56	5.1	14,195
Federal V.L.A.[a]	15.31	110.01	14.70	115.65	4.2	6,697
Total Federal	111.63	451.18	154.45	559.21	—	—

[a] Includes 20 per cent of total loans to part-time farming establishments.

farmers can qualify for such credit vary greatly. (*2*) In Table 2, farm credit data from provincial agencies for 1963 and 1964 are presented together with averages on loan size. During 1964 over $49 million was extended by provincial credit agencies. This amount was approximately $9 million greater than in 1963. Of the $49 million extended, $38 million was in the provinces of Quebec and Ontario. Out of the $251 million outstanding to all provincial agencies at the end of 1964, roughly $162 million was outstanding to Quebec, $30 million to Ontario, $24 million to Manitoba and $17 million to Alberta. Average interest rates to farmers vary from 6.5 per cent (including insurance) in Saskatchewan to 2.5 per cent in Quebec. While the largest number of loans was made in Quebec, the average size was larger in Saskatchewan, Manitoba, Ontario and Alberta. In view of the recent increases in loan maxima allowed under many provincial farm credit acts, substantial increases in average loan sizes may be expected in the future.

TABLE 3—FARM IMPROVEMENT LOANS, BY PROVINCES, 1963 AND 1964

Province	Credit extended 1963	Credit outstanding 1963	Credit extended 1964	Credit outstanding 1964	Average loan 1964
	millions of dollars				dollars
British Columbia	4.46	7.50	4.97	8.70	2,105
Alberta	37.76	67.21	42.19	76.75	1,833
Saskatchewan	41.64	65.93	45.17	77.26	1,876
Manitoba	16.88	28.49	19.98	34.66	1,823
Ontario	26.47	50.82	29.15	56.80	1,910
Quebec	5.60	14.99	5.84	12.70	2,143
New Brunswick	0.85	1.94	1.00	1.59	1,885
Nova Scotia	0.86	1.74	1.01	1.76	1,528
Prince Edward Island	1.35	2.52	1.47	2.73	1,435
Newfoundland	0.08	0.13	0.06	0.12	2,256
Totals	135.95	241.27	150.84	273.07	1,871

In Table 3, a breakdown of the amounts involved in bank loans under the Farm Improvement Loans Act for each province is presented for 1963 and 1964. During 1963, approximately $136 million was extended and $241 million was outstanding at the end of the year. The corresponding figures for 1964 are $151 million and $273 million, respectively. In 1964, F.I.L.A. loans made in the Prairie Provinces and Ontario amounted to over $136 million, 90 per cent of the total. The average size of loan ranged

from $1,435 in Prince Edward Island to $2,256 in Newfoundland while the Canada average was $1,-871. Previously it was noted that while the average length of term of F.I.L.A. loans was not known, the relationship between the yearly amount of credit outstanding and the amount extended suggests that the average loan is for a relatively short period of time. In the years 1961, 1963, and 1964, the credit outstanding was 79, 77 and 81 per cent higher, respectively, than the credit extended.

A comparison of the total credit used by farmers in 1955 (*3*) and in 1964 indicates that the use of credit has approximately doubled during the period in spite of a very substantial decrease in the number of farms. A continued growth in the size of farm businesses, the use of increasingly complex technology and management techniques will result in even larger credit requirements for a farm in the future. The size of future farm capital requirements may make other tenure arrangements than the repurchasing of farm land by every generation of farmers more attractive. Further research on the means of financing farming is necessary as a basis for developing appropriate credit policies which will meet the changing needs of the agricultural industry.

NOTES AND REFERENCES

(*1*) R. S. Rust, How Much Farm Credit in Canada, *The Economic* Annalist, Vol. XXXIII, No. 1, February 1963, p. 10.

(*2*) For details see: R. S. Rust, Farm Credit Legislation in Canada, *The Economic Annalist,* Vol. XXXIV, Nos. 5-6, pp. 113-127.

(*3*) W. M. Drummond and W. Mackenzie, *Progress and Prospects of Canadian Agriculture,* Royal Commission on Canada's Economic Prospects, Queen's Printer, Ottawa 1957, p. 128.

DECREASING FARM NUMBERS AND INCOMES

E. E. R. King

Twenty-five years ago, in 1941, there were nearly 733 thousand farms in Canada. This was the all-time peak. By 1961, the number of farms, even allowing for the addition of Newfoundland in the interval, was down to 481 thousand. If the rate of decrease which took place from 1956 to 1961 continued, then the number of farms, as defined for the 1961 census, would have totalled 445 thousand holdings for all of Canada in 1965. During this 25-year period the total area in farms decreased by approximately one million acres, but the acreage of improved land increased by about 12 million acres. In 1941 the average size of farm was 237 acres; in 1961 it was 359 acres. Total capital investment per farm in 1941 was almost $6,000; in 1965 it was over $31,000. Aggregate total net income from farming operations in 1941 was $489 million; for the year 1965, it has been estimated at $1,802 million.

This brief recitation of facts about the farming industry clearly outlines the considerable changes which have taken place during the recent quarter century. By today's standards of life expectancy, these changes have occurred over half of the productive work years of an individual. The decrease in numbers of farm operators has been proportionately more than the rate of increase in aggregate net income from farming with the result that net returns per farm have increased at a faster rate. This is illustrated in Figure 1 where, using ratio scales, a comparison has been made between the change in aggregate net farm income and the net income per farm.

These trends can be related to structural adjustments which have occurred in both the input and output sides of agriculture. On the output side the long-term trend has been toward a greater proportion of total production in the form of livestock and livestock products. Important changes have occurred also on the input side. Inputs of machinery, purchased feeds, livestock, fertilizers, electric power and pesticides have increased over 150 per cent during the past 25 to 30 years. By contrast the total labor input has decreased approximately 55 per cent. (*1*) The substitution of capital inputs for labor has been an important part of structural adjustment. This has been accomplished while maintaining and even increasing total returns to the farming industry.

The type of labor released from agriculture is difficult to determine because the net movement from the industry of persons hitherto classified as "unpaid" family workers, hired workers, and self-employed farm operators is involved. The net decrease in the number of self-employed persons has been reflected, of course, by a corresponding decrease in farm numbers. This decline has come about, not only by the cessation from farming of persons still in their productive years of life, but also by the retirement from farming of elderly farmers whose farms have been consolidated with other holdings. A major characteristic of the decrease in farm numbers, and hence a characteristic of self-employed operators leaving farming, has been that the decrease has occurred almost entirely among those farms with relatively small amounts of capital and having gross sales of agricultural products of less than $5,000 a year. (*2*) However, in spite of these changes and the improvement in the general level of average farm income, there appears to have been no significant change in the relative distribution of income within the farming industry.

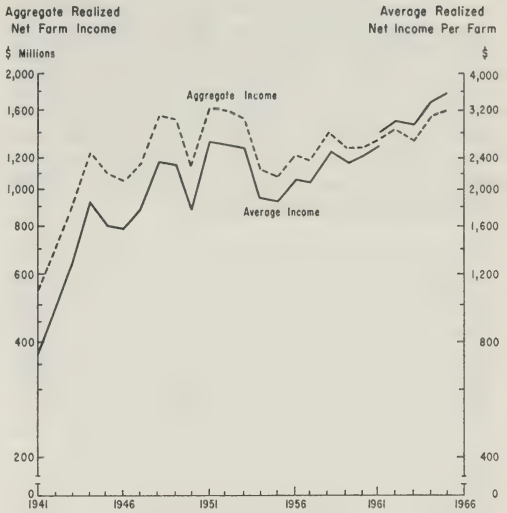


Figure 1—TRENDS IN AGGREGATE REALIZED NET FARM INCOME AND REALIZED NET INCOME PER FARM, CANADA, 1941 to 1965. Data exclude Newfoundland, Yukon and N.W.T. The realized net income per farm has been calculated for the 1941–61 period using the 1956 Census definition of a farm and for the 1961–65 period using the 1961 Census definition of a farm (hence the break and shift in the line). *Source:* Dominion Bureau of Statistics, *Farm Net Income*, Cat. No. 21–202 (for aggregate data). Numbers of farms are straight-line intercensal interpolations and projections.

In Figure 2, Lorenz curves (*3*) have been drawn so as to compare the relative distribution of incomes within agriculture for the years 1951, 1958 and 1961. Here, the Lorenz curve was drawn so that the cumulative percentage of gross farm income was measured on the vertical axis and the cumulative

percentage of income recipients was measured on the horizontal axis. If aggregate gross farm income were equally divided among all the recipients, the result would be a straight diagonal line on the graph; the "line of equal distribution" in Figure 2. The further a curve lies from this line the greater is the disapportionment in the distribution of income. These curves indicate little or no change in the distribution of gross farm income over the decade for which data were available even though each curve represents a completely different situation with respect to farm numbers and to levels of incomes.

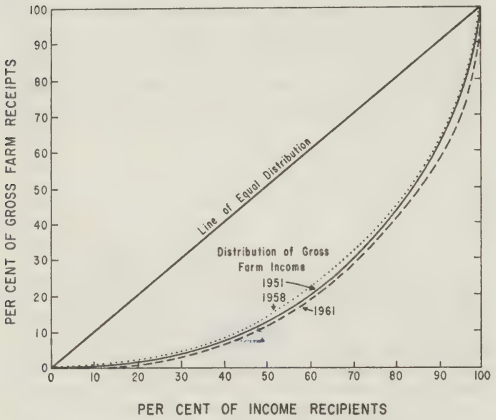


Figure 2—DISTRIBUTION OF AGGREGATE GROSS RECEIPTS FROM FARMING OPERATIONS, CANADA, 1951, 1958 and 1961. *Sources:* (1) Dominion Bureau of Statistics, *Census of Canada: Agriculture*, 1951 and 1961 (2) Dominion Bureau of Statistics, Unpublished data from the 1958 Farm Income and Expenditure Survey.

Family earnings from off-farm sources are an important item of income not included in this analysis. There were indications in the 1958 Farm Expenditure and Income survey that nearly one-third of the total net income of farm families was obtained from off-farm sources, (*4*) and that about one-half of the aggregate income from off-farm sources went to families with holdings having sales of less than $5,000 a year. (*5*) If the off-farm income of farm operators were included in total farm income, the deviation of the Lorenz curve from the "line of equal distribution" would be less than that indicated in Figure 2.

CONCLUSIONS

Structural adjustment in agriculture evidently involves forces that bring about greater efficiency within the agricultural industry. Specialization and the consolidation of farms suggest that the over-all efficiency of the industry has been increased. The rise in the level of average farm income, shown in Figure 1, is an indication that some of the benefits from increased efficiency have been retained at the farm level. However, the structural adjustments which have occurred in agriculture are the result also of economic forces operating throughout the economy which tend to equalize returns to factors of production.

Disparities of incomes among farms is a different situation to that of the average levels. Here, structural adjustment appears to have had little effect. As structural adjustment takes place and the less competitive farm holdings drop out, those that remain apparently expand their operations more or less proportionately to one another and, while fewer farms share in the aggregate receipts, the relative distribution of these receipts remains unchanged.

This study of changes in the over-all levels of average farm income and the disparities of income distribution among farms provides an indication of what to expect from structural adjustment in farming. While structural adjustment can be instrumental in raising the general level of farm incomes, the evidence examined suggests that it will not lessen the relative disparities of incomes within farming.

NOTES AND REFERENCES

(*1*) I. F. Furniss, Productivity Trends in Canadian Agriculture, 1935 to 1964, *This Journal*, Vol. 1, No. 1, April, 1965, pp. 18-22.

(*2*) Based on a comparison of Census of Canada data for the years 1951 and 1961.

(*3*) A Lorenz curve is a graphic device showing cumulative percentage relationship between two variables. It is customarily employed in displaying the extent of equality or inequality in the distribution of money income.

(*4*) Dominion Bureau of Statistics, *1958 Survey Report No. 1*, Agriculture Division, Nov. 1962, Cat. No. 5515-501.

(*5*) J. M. Fitzpatrick and C. V. Parker, Distribution of Income in Canadian Agriculture, Paper presented to the Annual Meeting of the *Canadian Agricultural Economics Society*, Vancouver, June 24, 1965.

CONSUMER ACCEPTANCE OF TURNIP FLAKES

B. D. Bruce and L. E. Drayton

The Food Research Institute of the Canada Department of Agriculture carries out a sizeable research program on the development of new and improved processed food products. The Canada Department of Agriculture process for production of instant potato flakes emerged from this program and was patented in 1961. Certain Canadian firms have been licensed to produce instant potato flakes using this process.

Experimentation in 1962 established that a similar process could be used to produce an instant turnip flake. Laboratory taste panel tests established that this turnip flake was quite palatable and the process for its production was patented in 1965. However, to date, no processing firm has shown sufficient interest in instant turnip flakes to apply for a license to produce them. In view of this circumstance, it was considered that a small sample study of consumer acceptance of turnip flakes should be undertaken in the Ottawa-Hull area to provide an indication of the potential market for this product. The study carried out was quite similar to the research techniques used by large companies in the preliminary phases of market testing for new products.

METHOD

Turnip flakes were processed in the Food Research Institute laboratory and packaged in plain white bags. Each package contained enough turnip flakes for about four servings. Four organized groups of housewives were selected and arrangements were made to distribute the turnip flake samples to these groups. Income data were not obtained but two groups, one English speaking and one French speaking were located in medium income sections of the city. The other two groups were in the rural fringe and included a mixture of farm and non-farm families. A chairman for each group received 25 to 50 samples which were distributed together with simple instructions and a questionnaire to the group, one to each participating housewife. The housewife was asked to prepare the turnip flakes according to the recipe in the instructions, serve them to her family and then complete the questionnaire, reporting her opinion, and that of other members of her family, of the turnip flakes. Completed questionnaires were returned to the chairman of the group who forwarded them to the Economics Branch, Canada Department of Agriculture for analysis.

While this procedure is commonly used in the preliminary phases of market testing, it has the obvious weakness that a probability sample is not obtained. Participation in any organized group involves some element of selectivity. Also, there was a likelihood that a larger proportion of those who like turnips and use them often would sample the turnip flakes than of those who seldom eat turnips. To obtain an indication of possible bias from those sources a small door-to-door survey was also undertaken.

For the door-to-door survey, fifteen starting points were selected by use of the telephone directory for Ottawa-Hull and a table of random numbers. Starting at the addresses selected from the telephone directory, alternate houses were visited until five houses near each selected address accepted a sample of turnip flakes. If the samples had been accepted at each of the first five houses visited in each cluster, the sample obtained would have been a close approximation of a probability sample although too small to assure that all sectors of the Ottawa-Hull population would be adequately represented. In practice, it was modified by the fact that the housewife was not at home or else did not wish to participate in the study. The existence of a high correlation between housewives being at home at the time the interviewer called (9:30 - 11:30 a.m. and 1:30 - 4:30 p.m. from Monday to Thursday) and liking for turnip flakes seems unlikely so that any bias arising from this source probably was small. Similar considerations apply to other refusals but five housewives refused because either no one in the home liked turnips or they were unable to use them for health reasons. It is unlikely that any of these families would be potential buyers of turnip flakes.

For the house-to-house distribution, there was a very brief interview before the turnip flake sample was presented. This interview included questions on liking for and frequency of use of turnips. The housewives were also asked to return a completed questionnaire in the envelope supplied, after using the turnips. Those who did not do so within 10 days were telephoned. Five housewives were not reached even with several telephone calls at various hours. In the end, a total of 56 records were obtained. This loss of 19 records may have introduced some bias as those neglecting to complete and return questionnaires probably had little interest in the product.

For analysis purposes, the records obtained were grouped as follows:

Group A Two English speaking organized groups.
Group B Two French speaking organized groups.
Group C Door-to-door survey group.

Rating of Turnip Flakes

Each member of the household was asked to rate the turnip flakes at one of eight levels, dislike extremely, dislike very much, dislike moderately, dislike slightly, like slightly, like moderately, like very much and like extremely. These ratings were given weights from one to eight in the above order and the arithmetic mean was found for all groups (Tables 1 and 2).

RESULTS

The differences in proportions liking and disliking the turnip flakes between Groups A and B, A and C and B and C were all statistically significant. (*1*) This suggests that selectivity of sampling in the organized groups resulted in higher rating of turnip flakes than the general public would give. Even the rating made by Group C is too high in that refusals on grounds of not liking turnips and failure to return the questionnaire through lack of interest in the product would cause some upward bias. (*2*) The much higher rating in Group B than in Group A is a strong indication that the best potential market for turnip flakes will be found in French-speaking communities.

The individuals were divided into four classes: homemaker, husband, persons 16 years and over, and children 7-15 years of age. In each of these classes, the "liked very much" rating has the greatest support with 35 to 54 per cent of each class giving this rating. The homemaker gave the highest average rating (6.56) with the husband giving the second highest (6.25). The children 7-15 years of age gave the lowest rating (5.33).

Flavor of Turnip Flakes

Most (92 per cent) of those who tried the turnip flakes liked the flavor. The biggest complaint about the flavor was that it was too bitter. Perhaps this is one of the strongest complaints against fresh turnip and the reason several homemakers mentioned that they always add a tablespoon of brown sugar to the turnip.

Texture of Turnip Flakes

More homemakers found fault with the texture than the flavor of the turnip flakes. The greatest complaint against the texture was that it was too moist. One might question if all the packages contained the same amount of turnip flakes. At any rate, directions could be added to the package for the homemaker to be careful when adding the water so as not to add all the water called for if she prefers her turnips of a thicker consistency. Another complaint regarding the texture was that it was too smooth, although some homemakers remarked on how much they enjoyed the turnips being free of lumps.

Color

There was little controversy concerning the color of the turnips as over 95 per cent of the homemakers agreed that the color was pleasing. Six homemakers who did not like the color were divided in their opinion as to whether it was too light or too dark.

Ease of Preparation

The turnip flakes appear to qualify as a convenience food. Ninety-nine per cent of the homemakers who tried the turnip flakes found them easy to prepare and many commented on how useful they would be when one was in a hurry. Over 70 per cent of the homemakers said they would serve turnip more often if the turnip flakes were available at a reasonable price. A large majority of those who gave a reason for why they would serve turnip more often said they would do so because it was so quick and easy to prepare. Twenty-six per cent of those who said they would not use turnip more often gave their preference of fresh turnip as a reason, while 30 per cent said they would not use them more often because all members of their family did not like turnip.

Regardless of how many times a month the homemaker already served turnip (4 or more, 2 or 3, once, less than once) over 70 per cent of them in each of these four groups said they would serve turnip more often if turnip flakes were available. Only 17 persons or 5 per cent of the homemakers and husbands who liked turnip did not like the turnip flakes while 26 persons or 84 per cent of the homemakers and husbands who disliked turnip liked the turnip flakes.

Comments on Turnip Flakes

Many (39 per cent) of the homemakers did not offer comments on the turnip flakes or on potential uses for them. Several of the homemakers commented on how much they enjoyed the turnip flakes. In general, the comments were very favorable but it should be remembered the comments are from the homemakers who rated the flakes the highest.

There were a few who offered suggestions for changes in the recipe. One of the most common suggestions was to add a tablespoon of brown sugar to the turnip flakes as the homemaker claimed this took away some of the bitter taste. Others suggested adding part milk and part water instead of all water. If turnip flakes were put on the market perhaps some of these suggestions could be printed on the package. Four homemakers questioned the nutritional value

of the turnip flakes compared to the fresh turnip. This could be an important factor in marketing the flakes.

MARKET POTENTIAL

The majority of the homemakers expressed enthusiasm for the turnip flakes. The greatest objection appeared to be that the turnip was too watery while a few felt the flavor could be improved. One of the best qualities of the turnip flakes is the ease of preparation compared to the fresh turnip and this would probably be a major reason for their acceptance on the market.

The data for Group C casts the most light on market potential for instant turnip flakes. Seventy-one per cent of the housewives who returned the questionnaire in this group thought they would use more turnip if turnip flakes were available at a reasonable price. If it is assumed that none of the 39 households that refused to participate in the study or else failed to return their questionnaires would use turnip flakes, if they were available, the estimate of the proportion of the population who would use more turnip is reduced to 42 per cent. If this 42 per cent of the population actually used 10 per cent more turnip, turnip consumption would increase by at least 4.2 percent. (*3*) As data on consumption of fresh turnip are not available, it is impracticable to convert this percentage to a quantity estimate.

The housewives who said they would use more turnip if turnip flakes were available would appear to be potential buyers of this product. Thus, this study indicates that the potential market for turnip flakes might exceed 40 per cent of Canadian homes. Nevertheless, as turnips are not a particularly popular vegetable, purchases in many of these homes would probably be rather infrequent.

At best, these estimates can only be regarded as a rough indication of the potential market for turnip flakes. This study was limited to one metropolitan area and the Group C sample was rather small to yield a good representation for that subgroup. Further research is required to yield a good estimate of the market potential for turnip flakes, particularly tests of sales in retail stores.

NOTES

(*1*) The Chi-square test was used. All the differences were significant at the one per cent level.

(*2*) If ratings of "dislike extremely" are assumed for all members of the five families who refused the turnip flakes because they disliked or couldn't eat turnips, the average rating for Group C is reduced to 5.1 or "like slightly". This would be a more realistic rating for the general public.

(*3*) This estimate assumes that this group is now average in its use of turnip. It seems likely that those who reported on the turnip flakes and liked them would be well above average in their use of turnip.

TABLE 1—RATING OF TURNIP FLAKES AS RELATED TO GROUP TESTING THEM, OTTAWA-HULL, 1965

Rating		Group A		Group B		Group C		All	
		No	per cent	No	per cent	No	per cent	No	per cent
Dislike Extremely	1	5	1.7	1	.5	5	2.5	11	1.6
Dislike Very Much	2	17	5.6	1	.5	31	15.6	49	7.0
Dislike Moderately	3	13	4.3	3	1.5	7	3.5	23	3.3
Dislike Slightly	4	19	6.3	2	1.0	5	2.5	26	3.7
Like Slightly	5	26	8.6	10	5.0	21	10.6	57	8.2
Like Moderately	6	76	25.2	36	18.2	47	23.6	159	22.7
Like Very Much	7	132	43.7	108	54.6	65	32.7	305	43.6
Like Extremely	8	14	4.6	37	18.7	18	9.0	69	9.9
Total		302	100.0	198	100.0	199	100.0	699	100.0
Average Rating		5.88		6.67		5.50		6.02	

TABLE 2—RATING OF TURNIP FLAKES BY HOMEMAKERS AND OTHER MEMBERS OF HOUSEHOLD, OTTAWA-HULL, 1965

Rating		Homemaker		Husband		Other Adults age 16 and over		Children 7-15		Total	
		No	per cent	No	per cent	No	per cent	No	per cent	No	per cent
Dislike Extremely	1	0	0	3	1.8	4	2.5	4	2.1	11	1.6
Dislike Very Much	2	2	1.1	4	2.3	11	7.0	32	17.1	49	7.0
Dislike Moderately	3	4	2.2	2	1.2	5	3.2	12	6.4	23	3.3
Dislike Slightly	4	1	.5	7	4.1	7	4.5	11	5.9	26	3.7
Like Slightly	5	14	7.6	13	7.6	15	9.6	15	8.0	57	8.2
Like Moderately	6	44	23.9	55	32.2	28	17.8	32	17.1	159	22.7
Like Very Much	7	99	53.8	67	39.2	73	46.5	66	35.3	305	43.6
Like Extremely	8	20	10.9	20	11.7	14	8.9	15	8.0	69	9.9
Total		184	100.0	171	100.1	157	100.0	187	99.9	699	100.0
Average Rating		6.56		6.25		5.96		5.33		6.02	

POLICY AND PROGRAM DEVELOPMENTS

Price of Butter Increased—The Agricultural Stabilization Board increased its selling price for butter by two cents a pound to 57 cents a pound. The purchase price remained unchanged at 55 cents a pound for top-quality butter, basis delivered in store Montreal and Toronto. (Jan. 7, 1966).

Crop Loss Assistance for New Brunswick Farmers—The federal government and the government of New Brunswick are co-operating in a program to assist livestock farmers who suffered crop losses due to adverse weather conditions in 1965. Farmers will receive financial assistance to purchase winter feed for their livestock. (Jan. 11, 1966).

World Food Program Pledge—Canada pledged a contribution of $27.5 million in U.S. funds to the World Food Program for the three-year period 1966-68. Three-quarters of the contribution will be in commodities and the remainder in cash.

The pledge was made at the UN/FAO World Food Program Pledging Conference in New York. (Jan. 18, 1966).

Drought Assistance Program Extended in Quebec—The joint Canada-Quebec drought assistance program announced in July 1965 has been extended to provide: assistance to livestock farmers in other areas of the Province adversely affected by drought and poor harvest weather, assistance to producers of special crops who suffered losses because of bad weather, increased assistance to farmers in the area previously designated. (Jan. 19, 1966).

Agriculture in the Throne Speech—The first session of the Twenty-seventh Parliamant was opened with the reading of the Speech from the Throne. Among the forecasts of legislation of particular interest to agriculture were: establishment of a fund for financing major rural development projects; amendments to the legislation regarding agricultural rehabilitation; a program for the purchase, re-development and re-sale of uneconomic farm units; revision of the Crop Insurance Act to make crop insurance available to all farmers; establishment of a Canadian Dairy Commission; a program of cash advances for unthreshed grain when weather conditions delay harvesting; creation of a livestock feed agency to improve the movement and marketing of feed grain in Eastern Canada and British Columbia; increased loan capital for the Farm Credit Corporation. (Jan. 19, 1966).

Insecticide Restrictions—The pesticides aldrin and dieldrin may not be sold for use on any crop that is likely to be fed to animals. Their use in fertilizers for farm use and feeds is also prohibited. Soil and seed treatments are permitted only where a crop is grown for seed and where no part of the crop will be fed to animals. Soil treatments must not be used where root crops are in rotation. (Feb. 8, 1966).

Ontario Cheese Marketing Order—The Ontario Milk Marketing Board and the Milk Commission of Ontario were given authority, under provisions of the federal Agricultural Products Marketing Act, to regulate the marketing of Ontario produced cheese within the Province and in interprovincial and export trade. The Board also received authority to fix, impose and collect levies or charges from persons engaged in the production and marketing of cheese for such purposes as paying the expenses and losses and the equalizing of returns among producers.

These powers originally granted in 1960 to the Ontario Cheese Producers Marketing Board and the Milk Industry Board of Ontario were revoked. (Feb. 17, 1966).

Seeds Regulations Amended—Amendments to the Seeds Act require the percentage of germination and the date of test to be shown on the tag, label or container of each package of seed marked with the grade name "Canada Registered Substandard".

No package of seed marked with a grade name other than "Canada Registered Substandard" shall carry a guarantee as to purity or percentage of germination of the seed contained therein unless detailed information as to the name and number of noxious weed seeds per unit weight and the percentage of germination is shown. (Feb. 18, 1966).

PUBLICATIONS

ECONOMICS BRANCH PUBLICATIONS

Supplemental Irrigation in the Proposed South Saskatchewan River Irrigation Project, Sonntag, B.H., Saskatoon, November 1965. pp. 101. Pub. No. 65/17.

A report on a research project designed to develop profit-maximizing plans for farms that use supplemental irrigation, in the initial phase of the Irrigation Project. Plans were developed for various resource supply, production alternative, production efficiency and price situations.

Irrigation Lands Crop Production Study, All Irrigation Districts, Alberta, 1963, Allen, L. C. and K. Elgaard, Edmonton. pp. v + 45.

A report on a study of the primary benefits of irrigation in each of the 14 irrigation districts in Alberta.

Alberta Cattle Feeding Study, 1962-63, Haythorne, D. F. and K. Elgaard, Edmonton. Pub. No. 65/11. pp. 51.

A study of beef finishing on farm feedlots in Alberta in 1963. The objective was to supply detailed information on farm costs, output, and management practices.

Canadian Agriculture in 1965, A Chronology of Federal Policies, Ottawa, January 1966. pp. 30. Pub. No. 66/1.

This publication, prepared by Mrs. Mary A. Bradley, is one of a series which began in 1952. It is a chronological record of changes in federal government policies affecting agriculture and of the more important events related to these policies.

Economic Aspects of Farm Machinery Use in Crop Production in South Central Manitoba, 1964, Tonn, B. E., Winnipeg, August 1965. 35 pp.

A report on costs of owning and operating nine machines used in crop production along with data on crop production practices and requirements.

The Use of Aircraft in Canadian Agriculture, 1965, Philpotts L. E., Ottawa, February 1966. pp. 26. Pub. No. 66/4.

A report on agricultural work by private and commercial aircraft operators in 1965, principally on spraying and seeding operations.

1962-63 and 1963-64 Supplement to Federal Agricultural Assistance Programs, Canada, 1945-1956, Ottawa, January 1966. pp. v + 320-369.

This fourth supplement to the bulletin was prepared by Mrs. Mary A. Bradley. It brings forward to March 31, 1964, the chronological outline of federal agricultural assistance programs.

UNITED NATIONS PUBLICATIONS

Available in Canada from the Queen's Printer, Ottawa.

Methods of Farm Management Investigations for Improving Farm Productivity, F.A.O. Agricultural Development Paper No. 80, Revised Edition, UN/FAO Rome 1965. pp. 258. Price: U.S. $3.50.

The first edition of Methods of Farm Management Investigations was published in 1958 but this revised edition takes into account actual experience in use. Material has also been included which: (a) provides more examples from developing areas; (b) provides more concrete descriptions to show the steps and procedures for budgeting; and (c) provides illustrations on the use of linear programming techniques for solving cost minimization problems (profit maximization is the dual solution).

The European Economy in 1964, Geneva, March 1965. pp. 68. Price: U.S. $2.00.

The eighteenth in a series of reports prepared by the Secretariat of the Economic Commission for Europe to serve the needs of the Commission and to help in reporting on world economic conditions.

OECD PUBLICATIONS

Available in Canada from the Queen's Printer, Ottawa.

Co-operation Between Research in Agricultural Natural Sciences and Agricultural Economics, Report of the 1963 Seminar, OECD Documentation in Agriculture and Food, Organization for Economic Co-operation and Development, Report No. 65, October 1964. pp. 256. Price: U.S. $2.50.

This is the report on a Seminar sponsored by the Organization for Economic Co-operation and Development in Paris (December 1963) to promote interest in co-operative research into input/output relationships in agriculture designed both to satisfy the requirements of the life scientists and to provide input/output coefficients relating to agricultural production and resource use.

Advisory Work in Agricultural Marketing,—No. 73, August 1965. pp. 128. Price: U.S. $1.50.

The purpose of this report was to assist agricultural advisory services, to bring about the necessary adaptations on farming and the marketing systems in Member countries in order that agriculture may make its full contribution to general economic growth throughout the OECD area.

Government Finance and Economic Development. pp. 316. Price: U.S. $5.00.

This book contains the papers presented at a Study Conference on problems of economic development, entitled "Government Finance and Economic Development". It is a systematic attempt to analyze the present state of knowledge on fiscal policy as applied to the problems of developing countries.

Work Requirement Data for Farm Management Purposes,—No. 72, July 1965. pp. 112. Price: U.S. $1.50.

Summary report on the meeting of the ad hoc group of experts on work requirement data for farm management purposes.

Area Economic and Social Redevelopment, Guidelines for Programmes, Klassen, L. H., June 1965. pp. 116. Price: U.S. $4.50.

This study provides central government officials, regional and local developers and physical planners and citizens in economically distressed areas with guides for organizing agencies for economic development, and their research programmes.

Agriculture and Economic Growth, Paris, 1965. pp. 9 + Appendix. Price: U.S. $3.00.

This report was prepared by six economists from universities in Europe and North America for the OECD Agriculture and Economic Policy Committees. It describes agriculture's contribution to economic expansion and discusses problems that arise during a period of economic growth; it also suggests some guidelines for framing farm policy in OECD countries.

Interrelationship Between Income and Supply Problems in Agriculture, Paris, 1965. pp. 105 + Appendix. Price: U.S. $5.00.

Part I of this report entitled "Basic Trends Affecting Income and Supply Situation" deals with trends in the aggregate agricultural situation patterns and trends of farm organization, and trends in farm structure and their effects on supply. Part II is entitled "The Adjustment of Supply and Demand" and deals with the role of prices, quota systems, measures to influence the volume of inputs, reliance on producer responsibility, and action at the international level.

Obstacles to Shifts in the Use of Land,—No. 74, September 1965. pp. 158. Price: U.S. $1.50.

The objective of this study was to identify the economic, juridical, social and other phenomena which constitute obstacles to shifts in land use within agriculture and from agricultural to non-agricultural uses. The report considers these phenomena qualitatively and develops suggestions to overcome them which might be incorporated in policy decisions.

OTHER PUBLICATIONS

Problems in Economics and Business Statistics for Canadian Students, Reddin, W. J., University of New Brunswick, September 1965. P. 78.

A workbook that, in the words of the author, "stresses interpretation and application, not calculation. It puts more weight on descriptive statistics than statistical inference. It is designed for the first course in statistics for students of economics and business administration at universities, colleges, and technical institutions in Canada. While in early sections the book contains many problems of an elementary nature, later sections contain more difficult problems requiring some understanding of economic as well as statistical principles".

Review of the World Wheat Situation, 1964-65, International Wheat Council, 28 Haymarket, London S.W. 1, November 1965. pp. 89 + Appendix.

The seventh in a series of annual reviews of the world wheat situation carried out by the International Wheat Council. This report contains a survey of the 1964-65 crop year and the short-term outlook, covering production, trade, prices and important changes in national policies. A special chapter on developments in the grain economy of the U.S.S.R. is included.

The Response to a Mail Survey of Devon Farms in 1965, Davies, E. T. and B. E. Hill. Department of Agricultural Economics, University of Exeter, Newton Abbot, Devon, England. Occasional Paper No. 1, October 1965. pp. 15. Price: 2/

This report deals with the response to a mail survey of Devon farms in 1965.

The authors conclude that "this research technique deserves wider application" and also consider that "the telephone is a possible alternative to postal reminder notices".

Butter-Hog Farms Business Analysis, 1964, Farm Management Division, Extension Service Branch, Nova Scotia Department of Agriculture and Marketing, Truro, Nova Scotia, August 1965. pp. 8.

A summary of the business performance of 13 dairy farms whose main source of income is from sales of butterfat and hogs.

Dairy Farm Business Analysis, Eastern Nova Scotia, 1964, Farm Management Division, Extension Service Branch, Nova Scotia Department of Agriculture and Marketing, Truro, Nova Scotia, August 1965. pp. 9.

An enterprise analysis for 52 dairy farms in the six eastern counties of Nova Scotia.

Dairy Farm Business Analysis, Western Nova Scotia, 1964, Farm Management Division, Extension Service Branch, Nova Scotia Department of Agriculture and Marketing. Truro, Nova Scotia, August 1965. pp. 9.

An enterprise analysis for 57 dairy farms in the 12 western counties of Nova Scotia.

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CANADIAN FARM ECONOMICS

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CANADIAN FARM ECONOMICS

COMMODITY REVIEW

GRAINS AND FEEDS

On the international scene, the meeting of the FAO Grains Group held in Rome, April 18-22, made a survey of the world grain situation and outlook. This group is composed of delegates from more than thirty grain importing and exporting countries, including most of the major countries concerned with the export trade. The survey indicated that there has been a slight decline in wheat production in 1965 with particularly poor crops in the USSR, and to a lesser extent in the major producing areas of the southern hemisphere and in Africa. As a result, world trade in wheat in 1965–66 is expected to reach a record level. The re-emergence of the USSR as a major importer and the dramatic failure of food grains in India last autumn have been important factors in boosting the level of trade. With this high level of trade, end-of-season stocks of wheat in major exporting countries are likely to decline substantially. The general decline in wheat prices, which had been a characteristic of the previous crop year, was arrested and reversed during 1965–66.

For coarse grains, output showed very little change from that of the preceding year, but world trade in 1965–66 has risen by about 3 million tons to a record 37 million tons, reflecting larger purchases by the traditional commercial importers (particularly western Europe and Japan). This upward trend is consistent with the steady growth in livestock production and consequent feed grain requirements in the developed countries. International prices of coarse grains have been generally higher throughout 1965–66.

Based on present indications of production prospects, the FAO Grains Group think there is little doubt that international trade in grains will be sustained at a high level in 1966–67. However, at the same time, some decline in trade in wheat from the record volume of 1965–66 may be expected if wheat production in the USSR recovers from the 1965 set back.

In its assessment of the world grain problem the FAO Grains Group concluded that the situation appeared to have approached a qualified state of equilibrium between supply and demand for the first time since the early 1950's. The decline in world stocks of all grains from 140 million tons in 1960 to 98 million tons in 1965 has brought stocks to levels which, with today's high volume of international trade and food shortages in several developing countries, could no longer be considered excessive. Carry-over stocks in 1966 at 85 million tons are about equal to current levels of world grain exports.

The group stressed that there is at present no prospect of any world wide shortage of grains and no danger of major exporters being unable to meet commercial demand. At the same time, while the major single factor determining size of world wheat trade over the last decade was the strength of the demand in the main importing countries, the disappearance of surplus stocks implied that annual fluctuations of supplies in exporting countries could become a more prominent factor than before in determining the level of trade. Thus, another below average world crop could place considerable strain on available grain reserves. Equally, a coincidence of exceptionally favorable harvests could temporarily lead to the re-emergence of excess supplies.

G. A. Hiscocks

TRENDS IN CATTLE NUMBERS

Judging from statistical reports showing cattle numbers on farms in Canada on December 1, 1965 and in the United States on January 1, 1966, the present cattle cycle in both countries has entered the phase of a cyclical downswing after seven consecutive years of increase (Figure 1).

With beef breeding programs expected to expand, the number of cattle available for feeding and slaughter in 1967 and 1968 will likely be down from 1965 levels. The 1966 and 1967 calf crop including dairy and beef will probably be smaller than in either of the past two years because total cow and heifer numbers are down. As a result, the number of calves available for movement to feedlots in the next two years may be below the past two years.

In Canada cattle numbers on December 1, 1965 were down 2.2 per cent to 11.6 million head from the year earlier total. During this period beef cow numbers increased by 1 per cent while dairy cows declined 1.5 per cent. The largest decline in beef and dairy

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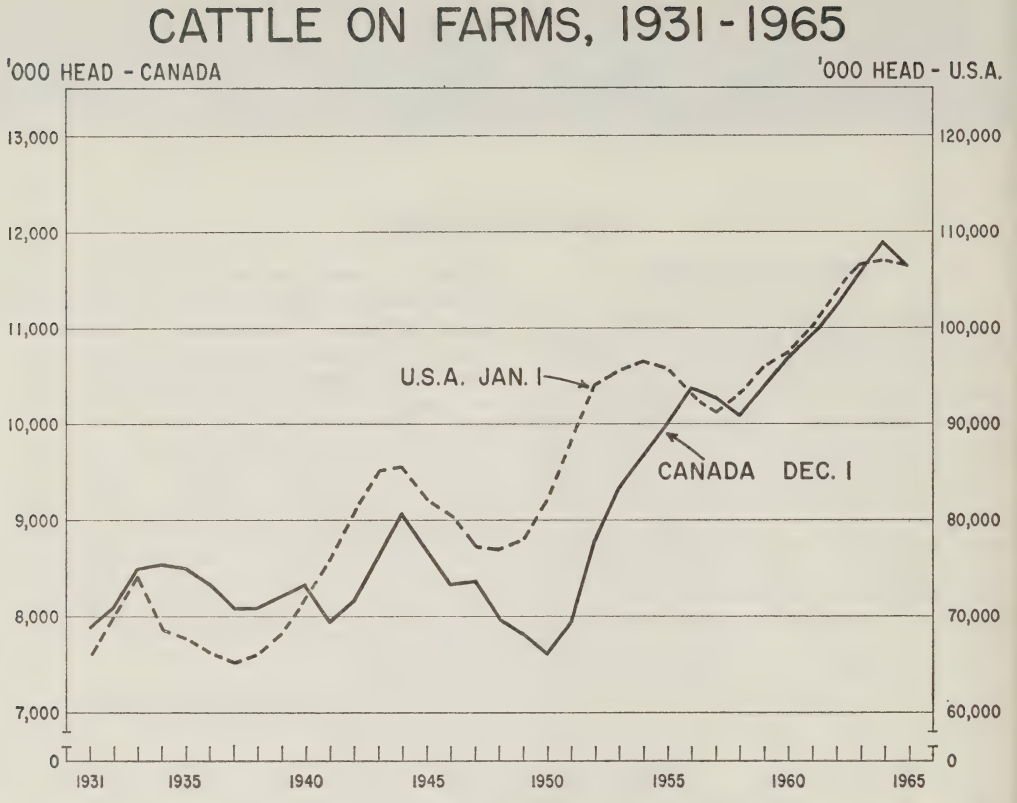


FIGURE I

numbers was in yearling heifers, down 5 and 8 per cent respectively. The sharp drop in beef heifers reflects an unusually high proportion of beef heifers in feeder exports to the U.S. in 1965. Steer numbers remained virtually the same at 1.2 million head.

In the United States the January 1, 1966 inventory of cattle and calves on farms was down 1 per cent to 106.6 million head from the same date one year ago. During this time dairy cow numbers declined 6 per cent and beef cows less than 1 per cent. The number of steers one year and older increased by 6 per cent and reflects large imports in cattle from Canada and Mexico. Heifers one to two years old for beef and dairy were down 3 and 7 per cent respectively.

Cattle on farms in Canada make up about 10 per cent of the combined supply of the two countries, Canada and the United States. Canadian cattlemen occupy a unique position in Canadian agriculture in that more than any other segment of farming in the country they operate on and are part of the "North American economy". Both live cattle and dressed beef may move in both directions across the border, so cattle prices in Canada are tied directly to price levels in the United States, the more dominant partner in the "pool". Due largely to the growth of cattle feeding in Canada, the level of prices generally reflects an export situation with the U.S.

The current cattle inventory situation in Canada is similar to the one that occurred during the cyclical downswing of cattle numbers in 1958. With respect to cattle prices the similarity ends. For the years 1956 and 1957, inspected slaughter was substantially above 1955 levels, with prices for choice steers at Toronto relatively lower. In 1965, inspected slaughter was up 13 per cent in numbers over the previous year and prices averaged about 5 per cent higher than in 1964. In the U.S. a similar situation with increased slaughter in 1965 accompanied higher prices. Two major factors contributed to higher cattle prices in 1965. Consumer's demand for beef was exceptionally strong. Also, a

sharp reduction in supplies of other red meats, particularly pork with high hog prices, was also a significant factor.

In the past decade many structural changes have taken place in the cattle industry which may affect the present downswing in cattle numbers and the prospective upswing. The upturn in the present cattle cycle was about the same duration as the previous cycle (Figure 2). The significance of the current situation is the duration of the downswing in cattle numbers now underway.

During the past fifteen years there has been a continuous upward movement in beef cow numbers. These increases are primarily attributable to the relatively strong demand for beef and resultant favourable prices. One of the significant trends which has contributed to the increase in beef cow numbers is the rapid expansion in production of fed-beef. In 1950, slaughter of choice and good grades made up 16.8 per cent of total gradings. In 1965, excluding imports, slaughter of good and choice grade cattle made up 49.3 per cent of total slaughter. The willingness of Canadian consumers to eat more beef is illustrated in the increased per capita consumption of beef from 50.6 pounds in 1950 to 78.7 pounds in 1965. This reflects the high income elasticity for beef and the improved quality, primarily brought about by the increase in numbers of cattle on feed.

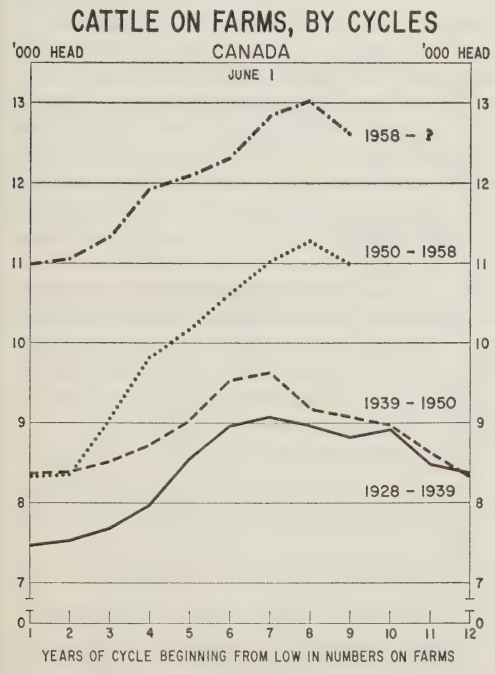


FIGURE 2

Beef cow numbers in Canada have shown a consistent increase in all years since 1950, from 961,000 in 1950 to 2,871,000 in 1965, an increase of 12 per cent per year. This rate of increase in beef cow numbers has been less since 1958, and contributes to the slower upswing in the present cycle (Figure 2). At the same time dairy cow numbers have declined from 3,119,000 head in 1950 to 2,885,000 in 1965. Beef and dairy cow numbers are now about equal in Canada while in the U.S. numbers were about equal in 1953. Somewhat paralleling the increase in beef cow numbers in Canada has been the increase in exports of feeder cattle to the United States, from a yearly average of 98,143 head during the seven year period 1952-58 to an average of 248,166 head during the period 1959-65.

With a continued strong demand for beef on this continent and favourable forage feed conditions, cattle numbers in the long-run are expected to continue upward. In the short-run the current phase of the cattle cycle, whether it be upward, levelling off or downward, will largely determine cattle numbers.

A. M. Boswell

POTATOES

According to the Dominion Bureau of Statistics survey of grower intentions, 317,200 acres of potatoes will be seeded this year. If these intentions are followed there will be an increase of 18,400 acres over 1965 and a 25,400 acre increase over the 1961-65 average, with every province sharing in the increase.

By province, the intended acreage increase over 1965 is: Prince Edward Island, 10 per cent; Alberta, 9 per cent; New Brunswick, 8 per cent; Ontario, 7 per cent; Manitoba and British Columbia, 5 per cent; Quebec, 2 per cent and Saskatchewan 1 per cent.

Over the past ten years the record of performance of intentions vs. plantings shows that the average absolute difference was about 4 per cent. There is some indication of a non-random movement in the differences, that is, the plantings above and below intentions occur in a sequential pattern. The current cycle has plantings above intentions for the past three years. The two preceding cycles were six and five years in length and alternated below and above intentions in that order. The sequence since 1950, therefore, has been six years of estimates below actual plantings followed by five years of estimates above and lastly three years of estimates below plantings. Preliminary results of the statistical analysis of the relationship of successive differences in intended acreage to planted acreage to variables such as lagged income, monthly prices and total value of the previous year's crop, has not suggested a cause for the apparent cycle of disparity between intentions and performance.

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Based on records of yields over the last five years, 317,000 acres of potatoes, will produce a crop of 50.3 million cwt. This would be about 5 million cwt., or 11 per cent, above 1965 production and would represent the largest crop of potatoes since 1931.

Production in the Maritime provinces will reach a record high if intentions are followed and yields hold steady. In the Central provinces production will be higher than any year since the end of World War II, while production in Western Canada is expected to be slightly below last year.

The United States Department of Agriculture has recommended a 10.3 per cent reduction in fall potato production. With average yields, United States fall potato production could amount to 191 million cwt. Total fall production in 1965 of 213.4 million cwt. was a new record and was 24 per cent above the small 1964 crop. The 191 million cwt. recommended for 1966 is one per cent above the 1960-64 average crop.

If March intentions become reality in Canada, and U.S. producers follow U.S.D.A. guidelines, the total Canada, U.S. fall potato crop of 242 million cwt. will be about 17 million cwt. (6.4 per cent) below that of 1965.

Considering the projected increase in production and the upward trend in processing utilization and certified seed use together with Canada's favorable trade balance the price outlook is still one of a downswing. Price, by itself is not the most important factor in determining returns. It has been seen a number of times that the total value is not always highest when price is highest. For example, in 1951-52 when the average farm price was $3.38 per cwt. producers received only $101 million compared with an estimated $115 million in 1964-65 at an average price of $2.41 per cwt.

Several factors contribute to the complexity of potato price analysis, including the degree of interregional competitiveness, patterns of trade and changes in utilization, to name but a few. The changes taking place in these factors sometimes offset the usual production-price relationship. For example, the usual year to year tendency is that when production increases, price goes down. But more processing and a greater proportion of the crop going for seed may bring a decrease in the available supply for the fresh market.

Under such conditions there must be reservations in predicting a price associated with a crop of 50 million cwt. for 1966. The assumptions underlying any prediction of this kind are that yields similar to previous years will be forthcoming and utilization will be about the same. On this basis the expected average farm value of the 1966 crop could be in the order of $1.65 per cwt.

A. D. MacDonald

STRUCTURE AND CONCENTRATION IN THE CANADIAN POULTRY MEAT INDUSTRY

J. T. Hill

In 1964 Canadian poultrymen raised 654 million pounds of poultry meat valued at over $180 million. The industry which is involved in producing, processing and distributing these birds is made up of five major sectors, the breeding and hatchery industry, the poultry feed industry, the poultry processing industry, the poultry growers, and the various distributive enterprises. In the hatchery industry, the poultry breeders provide the hatchery supply flocks with their latest strains for the production of meat birds. The eggs from these flocks are transferred to the hatcheries where they are placed in the incubators for the required time. The grower purchases the chicks and poults from the hatchery, broods them artificially and subsequently provides the necessary feed supplied by the local feed dealer. When the birds have reached the desired market weight, they are shipped to the processing plant, where they are killed, eviscerated, graded, packaged in fresh or frozen form and stored ready for shipment to the broker, the retail firm or some institutional buyer. From this point the finished product finds its way to the consumer.

The purpose of this paper is to describe the numerous industries which provide the goods and services directly associated with the marketing of poultry in Canada. In describing and analyzing each of the major sectors above, some information is provided on what is termed the "structure" of this industry. Structure here refers to an examination of the many firms which provide goods or services related to the output of one specific end product reaching the consumer at the retail level. It involves an analysis of the firms making up each of the several industries mentioned above and how they are linked together in the total complex known as the poultry meat industry.

In analyzing any specific industry which is made up of firms producing competing products or services which can be substituted one for the other, an appropriate method of revealing structural characteristics is to measure what is known by economists as "concentration". This term refers to the number of firms in the industry and the proportion or share of total output which can be attributed to each firm. For example, a highly concentrated industry would be one in which a few firms produce or sell over 80 per cent of the total output of the industry. Due to the limitations imposed by available data, a detailed analysis of concentration is made for two sectors only, the hatchery and processing industries.

THE BREEDING AND HATCHERY INDUSTRY

Breeding

Poultry breeding is a very specialized industry. Considerable resources are required to conduct genetic research and to carry out experiments for the development of specific strains of chicken and turkey which provide the maximum potential meat gains per input of feed. Each breeder develops a strain which provides the basis for its foundation flock. The firm may specialize in male and/or female lines but in either case there is considerable rivalry among breeders and the method of obtaining each strain becomes a closely guarded secret.

Most of the hatchery supply flocks in Canada are made up of strains developed in the United States. It is estimated that about 90 per cent of the turkey strains and about 85 per cent of the chicken strains are supplied by American breeders. There are only 10 to 20 chicken meat breeders in the United States of which eight control 95 per cent of the sales, and three control about 75 per cent of the strains sold to hatchery supply flocks in the United States and about 65 per cent of the sales to Canadian hatcheries. In Canada, there are two large chicken breeding firms and five large turkey breeders. One of the broiler breeding firms sells about 15 per cent of the broiler dams to hatchery supply flocks and is actively engaged in the United States market and in Europe, where it does a considerable business. Canadian turkey breeders supply about 10 per cent of the stock used in Canadian hatchery supply flocks. These large breeders are in a very strategic position. In 1964, for example, commercial hatcheries in the United States hatched 2.3 billion broiler-type chicks and 108.2 million turkey poults and in Canada 123.7 million broiler chicks and 13.9 million turkey poults.

To serve an industry of this size, the few breeders require large breeding farms and must utilize techniques of mass production to ensure an adequate supply of birds for the hatchery supply flocks. Competition among the breeders is very keen. In order to secure a continual market for their strains the breeders draw up contracts, usually of a year's duration, with various hatcheries, selecting them on the basis of location and facilities. These hatcheries then operate as franchised agencies of the breeder.

The breeding firms have large sales forces which provide a comprehensive service for their customers. Heavy expenditures are made on advertising and sales promotion. At times, price competition has also been

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significant, with price reductions by a franchise hatchery being matched quickly by its regional rival. Sales and services, advertising and price competition among the large breeders indicate their concern in maintaining their market shares and if possible extending them. Hatcheries offer the growers a large variety of discounts for volume purchases, continuing business, cash or prompt payment, and for orders during certain months. More emphasis is placed on sales and advertising rivalry among breeders in this industry than on price competition (*1*).

Entry is very difficult for any new firm proposing to initiate its own breeding program (*2*). The few firms already in this field have well established links with the hatchery industry which markets their breeds under contract. Their financial strength and size tends to prohibit a new entrant achieving the size of plant and sales organization necessary to enable it to compete with the established firms. A new firm must also overcome discriminatory advantages possessed by the established firms such as patents, licenses, research rights and brand names.

Hatcheries

The number of commercial hatcheries in Canada has declined during the past ten years. In 1954 there were 705 hatcheries, by 1963 there were 408, a 42 per cent decrease. This decline occurred in all regions of Canada. In spite of this decline in numbers, the total available incubator capacity in 1963 amounted to 35 million hatching eggs, about the same as in 1954. In the same ten-year period the average incubator capacity per hatchery increased from 50,662 to 85,716 hatching eggs. These changes indicate that while there has been a considerable decline in the number of hatcheries in Canada, those surviving have grown substantially in size. Of course, a number of these hatcheries produce egg production chicks, either in addition to broiler chicks or turkey poults, or exclusively. A survey of the 408 commercial hatcheries in 1963 indicated that 149 hatcheries specialized in the production of chicks for egg production, 15 specialized in broiler chicks and 66 in the production of turkey poults. The remaining 176 handled all types, broiler, egg-type, ducklings, goslings, turkey poults or even pheasant chicks. In Table 1 it can be seen how these hatcheries are distributed provincially.

Hatcheries were by tradition geared to a heavy spring output. This is still true today as far as egg production chicks and heavy weight type turkey poults are concerned, but to a smaller degree. Broiler chicks and lightweight turkey poults are not as seasonally oriented although hatcheries tend to be busier in producing these types during the summer.

On the basis of annual output, the hatcheries producing broiler chicks in 1963 were clustered in two large groups. About 48 per cent of the hatcheries produced up to 300,000 chicks while 38 per cent produced between 500,000 and three million (Table 2). Most of the very large producers are located in Ontario, where two hatcheries in 1963 reported an output of over five million chicks each. Hatcheries with the largest output of turkey poults are also located in Ontario. In 1963, as can be seen from Table 3, there were five hatcheries producing 500,000 poults or more. Most of the hatcheries, in fact 79 per cent of them, produced less than 100,000 poults in 1963.

In order to measure the degree of market concentration exercised by the large hatcheries, the output of each firm for the year 1963 was compared with the total output of the region in which it was situated or with the total national output. The former measure is considered more adequate since hatcheries tend to compete more on a provincial or regional scale than on a national scale. Their sales are usually restricted to the growers who are situated in the immediate locality. Comparisons are made on the basis of output by the top two, four and eight firms in each region. We can see from Table 4 that concentration is very high in British Columbia and the Atlantic provinces for both the production of broiler chicks and turkey poults. The four largest hatcheries supply from 83 to 92 per cent of the total output. In the case of broiler chicks, where output is substantial, this represents a considerable share of the market. The output of turkey poults is much smaller in these regions, reflecting the regional nature of the poultry industry. In Ontario and Quebec concentration is fairly high in the sale of poults but low in the sale of broiler chicks. Concentration in the Prairies is not high for either turkey poult or broiler chick sales (*3*).

THE GROWERS

It is difficult to accurately describe the present structure of the commercial poultry meat growing industry. This difficulty stems from the lack of information on the size and distribution of flocks. One possible source, the census, provides a complete count of all farms reporting chickens or turkeys of all ages. As a result, the data include a vast number of farms having only a few chickens or turkeys, which misrepresents the picture of the size of commercial flocks. Large flock owners cannot be determined from these data due to the fact the largest class interval is 4,973 and over. A flock of less than 5,000 broiler chickens is considered to be small in terms of a commercial operation. It is more likely that broiler chickens are raised in flocks containing 10,000 to 50,000 birds. In

TABLE 1—DISTRIBUTION OF COMMERCIAL HATCHERIES IN CANADA, BY TYPE OF BIRD HATCHED, BY PROVINCE, CANADA, 1963

	Broiler Chicks	Turkey Poults	Mixed	Egg-type Chicks	Total
British Columbia	1	6	15	10	32
Alberta	—	4	35	7	46
Saskatchewan	1	7	22	13	43
Manitoba	1	10	27	18	56
Ontario	3	21	34	71	130[a]
Quebec	8	9	31	9	57
New Brunswick	—	3	4	9	16
Nova Scotia	1	3	7	5	16
Prince Edward Island	—	3	—	7	11[a]
Newfoundland	—	—	1	—	1
Canada	15	66	176	149	408

[a] Total includes those hatcheries producing ducklings and goslings.
Source: Poultry Division, Canada Department of Agriculture.

TABLE 2—NUMBER OF HATCHERIES PRODUCING BROILER CHICKS ACCORDING TO SIZE OF ANNUAL OUTPUT, BY REGION, CANADA, 1963

	British Columbia	Prairies	Ontario	Quebec	Atlantic	Canada	
			number				per cent
1— 29,999	5	19	—	2	2	28	23.9
30,000— 49,999	1	3	—	—	1	5	4.3
50,000— 99,999	1	2	3	3	—	9	7.7
100,000—299,999	3	5	2	1	3	14	12.0
300,000—499,999	—	2	1	2	1	6	5.1
500,000—999,999	2	5	5	8	1	21	17.9
1—2.9 million	2	5	7	8	2	24	20.5
3—4.9 million	1	—	5	1	—	7	6.0
5 million and over	—	—	2	1	—	3	2.6
Total	15	41	25	26	10	117	100.0

Source: Poultry Division, Canada Department of Agriculture.

TABLE 3—NUMBER OF HATCHERIES PRODUCING TURKEY POULTS ACCORDING TO SIZE OF ANNUAL OUTPUT, BY REGION, CANADA, 1963

	British Columbia	Prairies	Ontario	Quebec	Atlantic	Canada	
			number				per cent
1— 9,999	2	19	7	2	7	37	33.9
10,000— 29,999	3	12	3	1	2	21	19.3
30,000— 49,999	2	9	—	—	—	11	10.1
50,000— 99,999	—	10	5	2	—	17	15.6
100,000—299,999	—	7	2	3	—	12	11.0
300,000—499,999	1	2	1	—	—	4	3.7
500,000—999,999	—	1	4	1	—	6	5.5
1 million and over	—	—	1	—	—	1	0.9
Total	8	60	23	9	9	109	100.0

Source: Poultry Division, Canada Department of Agriculture.

TABLE 4—DEGREE OF CONCENTRATION IN THE HATCHERY INDUSTRY IN TERMS OF PERCENTAGE OF TOTAL OUTPUT BY TOP 2, 4, AND 8 FIRMS, BY REGION, CANADA, 1963

		British Columbia	Prairies	Ontario	Quebec	Atlantic	Canada
Production of broiler chicks							
Top 2 firms	per cent	66.7	29.1	27.7	30.9	65.1	12.8
Top 4 firms	per cent	89.0	52.9	45.2	45.8	87.5	22.5
Top 8 firms	per cent	98.1	77.2	70.7	66.0	99.7	37.6
Total firms	number	15	41	25	26	10	117
Total output	thousands	9,327	13,907	48,756	28,875	5,055	105,920
Concentration[a]		Type $I_{(b)}$	Type III	Type IV	Type IV	Type $I_{(a)}$	Type V
Production of turkey poults							
Top 2 firms	per cent	76.4	23.4	39.6	65.4	64.7	30.2
Top 4 firms	per cent	92.2	38.4	75.9	85.9	82.9	45.4
Top 8 firms	per cent	100.0	56.8	93.9	99.5	99.8	61.2
Total firms	number	8	60	23	9	9	109
Total output	thousands	516	3,635	6,710	1,467	40	12,368
Concentration[a]		Type $I_{(a)}$	Type IV	Type II	Type $I_{(a)}$	Type $I_{(a)}$	Type IV

[a]Using J. S. Bain's suggested industry classification according to seller concentration, *op. cit.*, p. 124.
Source: Poultry Division, Canada Department of Agriculture.

1958 about 39 per cent of the growers surveyed by the Ontario Broiler Growers Association had capacity to raise 10,000 or more birds per lot. In 1960 Trant and Nurse estimated that over 50 per cent of the growers had this capacity (*4*).

The 1961 census showed that there were more large flocks at that time than five and ten years before and that the number of farms raising chickens or turkeys had been gradually declining. In 1961, there were 161,237 fewer farms raising chickens and 4,122 fewer farms raising turkeys compared with 1951. At the same time there were more farms raising larger flocks in 1961. The average production of poultry per farm increased from approximately 642 pounds eviscerated weight in 1951 to over 1,870 pounds eviscerated weight in 1961. The decline in the number raising chickens and turkeys, by province, varied, as did the increase in the size of flocks.

The census reveals the trend to fewer growers and larger flocks, but as mentioned previously it provides little insight into the size and number of commercial flocks. Studies have shown that in Ontario, broiler flocks were much larger than the census reveals. A 1961 Alberta study revealed that the average broiler farm had a capacity of about 30,000 birds. This same study revealed that there were less than 75 independent growers supplying the broiler market in Alberta, yet the census reported 46,072 farms raising chickens. In Ontario, at about the same time, the Ontario Broiler Growers Association reported it had 204 paid-up members and estimated the total number of broiler growers in the province at 707. Here again the census reported that over 60,000 Ontario farms raised chickens in 1961 and 1,654 farms raised over 973 birds. This indicates that there was a very large proportion of farms growing poultry for meat which were not operating on a commercial basis but were raising a few birds, for home use or for the local market.

Although published census material is of limited value in revealing the structure of commercial poultry farming a special question on the number of chicken broilers and lightweight turkeys was included in the 1961 census questionnaire. The results of this survey were subject to some discrepancies since it was apparent that only the number of broilers being fed at the time of the survey rather than the number fed during the previous 12-month period was provided by respondents. Still, the survey is more representative of the size of flocks grown by producers for the commercial market. For example, the survey indicated that 25.4 per cent of the broiler chicken flocks in Canada consisted of over 10,000 birds and that there were a greater number of large flocks in Ontario, Quebec and the Atlantic provinces than in the rest of Canada. The largest flocks seemed to be concentrated in Ontario where over 60 per cent of 1,145 farms reporting broilers were raising flocks with at least 5,000 birds.

In the same manner, the size of broiler turkey flocks may be analyzed and compared with the published census data for all turkey farms. Out of 351 farms reporting over 4,900 turkeys, 120 were raising over 5,000 lightweight (broiler) turkeys.

The commercial grower with the large 10,000 bird flock provides the bulk of the poultry meat processed and distributed commercially. For example, a grower raising 5,000 broiler chickens per lot with four lots in a year would provide a plant with about 60,000 pounds of eviscerated broiler chicken for distribution (*5*). About 5,000 growers of this size would supply

more than enough broiler chicken for Canadian consumers. Thus the 5,488 broiler growers surveyed in the special census questionnaire undoubtedly supply the great bulk of the meat sold in Canada and the tens of thousands of remaining farms reporting chicken account for a very small proportion.

THE PROCESSING INDUSTRY

When poultry reaches maturity the grower can kill, dress and eviscerate the birds himself or send them to a registered processing plant. A grower who kills his own birds can be known as a producer-grader if he acquires a grading certificate from the Canada Department of Agriculture. The plant which kills, dresses or eviscerates birds bought from growers requires a certificate of registration. In addition, most of the large modern plants have inspectors from the Health of Animals Branch of the Department of Agriculture who inspect every bird passing through the processing line. This allows the plant to place the 'Canada Approved' label on its product. The bulk of the poultry meat marketed commercially is inspected in this manner. For example, in 1963, out of 170 registered plants killing poultry, 71 were under Health of Animals inspection. These 71 plants processed over 80 per cent of the 475.5 million pounds of poultry meat handled by the 170 plants (*6*).

The total number of plants registered to process poultry reached a peak of 273 in 1957 but since then they have declined slowly until by 1964 there were 187 registered plants, of which 137 were equipped to eviscerate and 50 were set up to kill and dress only. Plants equipped to kill and dress only have been decreasing continuously since 1952, dropping from 207 in 1953 to 50 in 1964. At the same time, plants which contained equipment for evisceration climbed steadily and in ten years had risen from 39 to a peak of 166 in 1961. Since this time the number of eviscerating plants has also been declining, no doubt a result of the increase in size of the more efficient plants and the disappearance of the less efficient ones.

Most of the registered plants are located in Ontario. Grading stations or producers who grade their own poultry handle a very small volume of poultry compared with the poultry which is killed, eviscerated and graded in registered plants. In 1963, for example, 61 stations graded 5.2 million pounds, an average of about 86,000 pounds per station. This compared with an average of 5.6 million pounds for the plants under Health of Animals inspection and 780 thousand pounds for the average registered plant not under inspection.

An analysis of the annual output of 170 registered processing plants across Canada shows that over one-half of these plants processed less than one million pounds in 1963. At the same time 31 per cent processed from one to five million pounds while 17 per cent processed over five million pounds (Table 6). Of the 16 plants showing an annual output in excess of ten million pounds, all but one was located in Ontario and Quebec. These large volume processors are rarely independent. Most of them are large integrated corporations or co-operatives. Of the top ten processors in Canada in 1963, four were co-operatives, five were owned by large feed companies, meat packers or hatcheries and one was considered independent.

In order to examine the degree of concentration in the poultry processing industry, the total volume of poultry meat processed by each firm was tabulated and compared with the total volume processed in each of five regional markets, namely, British Columbia, the Prairies, Ontario, Quebec and the Maritimes (*7*). The results are shown in Table 7.

TABLE 5—NUMBER OF REGISTERED PLANTS[a] AND GRADING STATIONS AND THE VOLUME OF POULTRY MEAT PROCESSED AND GRADED[b], BY REGION, CANADA, 1963

	Registered Processing Plants				Grading Stations	
	Under Inspection		Not Inspected			
	Number	Volume	Number	Volume	Number	Volume
		thousand pounds		thousand pounds		thousand pounds
British Columbia	4	32,478	20	5,031	16	861
Prairies	24	75,953	15	2,414	8	350
Ontario	25	172,596	33	21,746	17	1,538
Quebec	14	105,216	24	45,176	10	2,273
Maritimes	4	11,987	7	2,941	10	216
Canada	71	398,230	99	77,308	61	5,238

[a] Data from 170 registered plants. In 1963 there were 190 plants registered to process poultry. However, the plants not covered handled only 0.5 per cent of the total volume processed in 1963.
[b] Eviscerated weight.
Source: Poultry Division, Canada Department of Agriculture.

The processing plant competes with its rivals for supplies and for sales on a regional basis. Only two firms have plants in several regions of Canada and thus could be called nationally oriented. One of these firms, with a poultry plant in four of the five regions of Canada, processed less than ten per cent of the national total in 1963. The combined output of the top eight firms in Canada comprised from 30 to 40 per cent of the national total, which would place concentration based on the national market at a fairly low level. However, since processed poultry is mostly sold and distributed within the immediate area surrounding the plant, the measures for regional concentration are considered more appropriate than figures based on Canada as a whole. The large plants are located close to large metropolitan areas. For example, in Ontario eight of the top ten plants are located within 35 miles of a major urban area of 100,000 or more people (*8*). Similarly in the other provinces most of the large plants are located within a relatively short distance of the large cities such as Vancouver, Edmonton, Calgary, Regina, Saskatoon, Winnipeg and Montreal. In the Maritimes, the plants tend to be located in small towns, which are characteristic of this part of Canada, and where Halifax is the only major urban centre claiming 100,000 people.

The fact that many of the large firms are integrated, that is they own hatchery and feed manufacturing facilities as well as their processing facilities, suggests that a greater degree of awareness of the other firm's actions exists among the few large firms than is revealed by the data in Table 7 (*9*).

TABLE 6—SURVEY OF 170 REGISTERED PROCESSING PLANTS ARRANGED ACCORDING TO TOTAL ANNUAL VOLUME OF POULTRY MEAT PROCESSED, BY REGION, CANADA, 1963

Total Pounds	British Columbia	Prairies	Ontario	Quebec	Maritimes	Canada	
eviscerated weight	number						per cent
Up to 50,000	2	5	4	2	2	15	8.8
50,001— 100,000	3	2	7	2	2	16	9.4
100,001— 500,000	13	7	13	6	2	41	24.1
500,001— 1,000,000	2	2	4	8	1	17	10.0
1,000,001— 3,000,000	1	11	10	9	3	34	20.0
3,000,001— 5,000,000	1	10	7	—	—	18	10.6
5,000,001—10,000,000	1	2	4	5	1	13	7.7
Over 10,000,000	1	—	9	6	—	16	9.4
Total plants	24	39	58	38	11	170	100.0

Note: Complete coverage was made of the registered plants in the Maritimes and Quebec. The remaining 20 plants situated in Ontario and Western Canada accounted for less than 2.5 million pounds of poultry which is less than 1 per cent of the 1963 total output.
Source: Poultry Division, Canada Department of Agriculture.

TABLE 7—CONCENTRATION IN THE POULTRY PROCESSING INDUSTRY, PERCENTAGE OF TOTAL POULTRY MEAT PRODUCED BY THE TOP EIGHT FIRMS, BY REGION, CANADA, 1963

Firm[a]		British Columbia	Prairies	Ontario	Quebec	Maritimes	Canada
1	per cent	47.9	18.2	8.5	13.7	46.8	8.1
2	per cent	20.7	15.0	7.6	9.8	16.0	4.6
3	per cent	12.3	14.8	7.4	9.8	16.0	4.3
4	per cent	5.7	11.2	7.2	9.0	11.6	3.8
Top four	per cent	86.6	59.2	30.7	42.3	90.4	20.8
5	per cent	2.2	10.5	6.4	7.4	4.9	3.1
6	per cent	1.7	5.4	6.2	6.8	1.7	3.1
7	per cent	1.1	4.8	6.1	6.3	1.5	3.1
8	per cent	1.1	4.0	6.0	6.1	0.6	3.0
Top eight	per cent	92.7	83.9	55.4	68.9	99.1	33.1
Remaining firms	number	16	19	48	30	3	143
	per cent	7.3	16.1	44.6	31.1	0.9	66.9
Total processed by all registered plants	thousand pounds	37,509	78,367	194,342	150,392	14,928	475,538
Concentration		Type I(b)	Type III	Type IV	Type IV	Type I(a)	Type V

[a] There are 153 firms controlling the 170 plants surveyed.
Source: Poultry Division, Canada Department of Agriculture.

THE POULTRY FEED INDUSTRY

For the grower, feed represents his largest single cost item. Cost studies show that feed makes up about 60 per cent of the total production costs for broiler chicken and light turkeys and about 50 per cent for heavy turkeys (*10*). Because it is such a major cost item the grower has consistently sought a feed which provides the greatest conversion rate. This problem has occupied the time and utilized the resources of the feed companies for years. Their experiments with varying types of feeds and with different strains of poultry improved the possible gains considerably. For example in 1947 it took about four pounds of feed to get a pound of meat on a broiler chicken. By 1963 poultry feeds and meat strains had improved to such a degree that it only required 2.2 pounds to obtain one pound of gain.

In 1963 there were 922 establishments manufacturing feed in Canada. Close to 80 per cent of these establishments were located in Ontario and Quebec. It is very difficult to determine how many of these establishments manufacture poultry feeds. No breakdown is made by the Dominion Bureau of Statistics in their survey of the feed industry so that this may be determined. Also, the quantities and value of poultry concentrates and various poultry secondary or complete feeds produced by "feed manufacturers" are not published. In any event the importance of poultry feed production can be indicated by comparing the value produced by "all industries" in 1963 with the value of feed, wheat flour and breakfast foods produced in Canada during the same period. In 1963 the total value of 1.6 million tons of poultry feed manufactured in Canada amounted to $144.8 million which is about 22 per cent of the total value produced in all of these affiliated industries (*11*). Production of complete feeds for broilers, for turkeys and for fattening and finishing poultry totaled 673,988 tons valued at $61.6 million. This topped all other livestock feeds except that for swine, in quantity produced, and was higher in value than the complete feeds produced for each of calves, dairy and cattle, swine or horses (*12*).

While it is difficult to obtain information on the number of firms manufacturing poultry feeds, it can be assumed that because of their high value most of the large feed companies do produce them. For example, the large feed manufacturers and the large co-operatives all produce large quantities of poultry feed. Also, out of 534 registrants of commercial feeding stuffs sold in Canada in 1964, 242, or 45 per cent were manufacturing registered poultry feeds (*13*).

The large feed manufacturers distribute their feeds through their own outlets or through franchised dealers located in all parts of Canada. The grower of poultry rarely finds it difficult to obtain feed for his birds as the large firms compete vigorously for his business. In fact, the trend to vertical integration has been largely stimulated by feed companies who have extended credit to growers and have thereby achieved contracts to supply feed to the grower.

Most of the poultry feeds are manufactured and sold by seven or eight firms. Each of these firms competes for maintenance and expansion of its share of the market. Advertising and service expenditure is an important form of competition and feed prices appear to be matched closely by rival firms (*14*).

RETAIL DISTRIBUTION OF POULTRY

The major distributors of poultry are the large retail chain stores, the independent retail outlets, wholesale brokers and institutional buyers such as hospitals, restaurants, hotels and penitentiaries. Much of the variety in the type of distribution is due to the arrangements made by, and the facilities of, the processor. Several of the large plants in Ontario sell their product directly to the chains. One processor distributes his product through small independent retail groceterias and meat markets. Some of the processors pack poultry on a custom basis for one or other of the large meat packers and then again there are those whose product is handled by wholesale brokers.

The broker occupies a unique position in the poultry industry. He preserves the function of the traditional middleman by serving as a go-between for the movement of frozen poultry between processors and the various retail outlets and, for that matter, between all phases where distribution of the finished product is necessary. There were nine produce brokers handling poultry in Canada in 1963 and these brokers handled 80 to 90 million pounds of poultry which represented from 16 to 18 per cent of commercial marketings during the same year (*15*). The brokers operate on a commission basis by bringing the buyer and the seller together in the market. They handle only frozen poultry and thus virtually no broiler chicken passes through their hands since this product is seldom marketed in other than fresh form.

The retail chains have greatly facilitated the distribution of a massive volume of merchandise through the construction of large supermarkets in the numerous shopping centers now located in every sizeable urban area. This has provided some external economies for the poultry industry because it can take advantage of the rapid turnover of fresh poultry meat, especially broiler chicken, which takes place in these supermarkets. The large turnover has been assisted by the low price for broilers and the modern and convenient facilities for display which have done much to promote the product. The chains have often featured

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poultry price specials as drawing cards for consumers. Whether these price specials encourage greater consumption in the long run is a controversial question. Some claim that consumption falls when the product returns to its regular price and that low prices have to be maintained. Others are of the opinion that price specials provide a vehicle for very rewarding advertising, increasing consumption in the long run (*16*).

The Royal Commission on Price Spreads of Food Products took notice of the phenomenon of price specials and were of the opinion that agricultural products not sold under a nationally advertised brand name were often used as specials by retailers in order to attract customers (*17*). The chains make every effort to achieve economies through lower procurement outlays for these commodities. The considerable bargaining power of the retail chain organizations is brought to bear, therefore, upon the poultry processor who has to settle with the chain on the terms of sale of a large uniform shipment of perishable product. When supplies are substantial the chains have a considerable advantage and processors may be susceptible to extensive pressure to lower price. This has an impact upon the market and upon growers' receipts.

These low price features have, undoubtedly, played a significant part in broadening the market for broiler chicken and have given this product the image in the minds of the consumer of a "good buy". Low prices have been a feature of the poultry industry. Since 1951, prices for poultry have been trending downward in relation to other foods which have been either increasing or have followed a changeable pattern, rising and falling. This characteristic of relatively low price has greatly influenced the changes which have occurred in the poultry meat industry in recent years including the growth of firms through horizontal and vertical integration.

NOTES AND REFERENCES

(*1*) Oligopolistic interdependence is evident from the behavior of the breeding industry. Oligopoly describes an industry in which there are only a few firms selling the same or a similar product. Because there are only a few firms, the actions of one member of the industry directly affect the other members and thus they become very interdependent in their competitive behavior. This interdependence is a characteristic of oligopoly.

(*2*) The concept of "entry" is used here as defined by J. S. Bain as the combination of two events: (1) the establishment of an independent legal entity, new to the industry as a producer therein and (2) the concurrent building by the new firm of physical production capacity that was not used for production in the industry before. See J. S. Bain, *Barriers to New Competition*, Chapter 1, Harvard University, Cambridge, 1956.

(*3*) Using the suggested classification of seller concentration outlined by Bain as a guide it is possible to examine the nature of the hatchery industry. See Joe S. Bain, *Industrial Organization*, John Wiley & Sons, New York, 1962, p. 124, where Bain classifies Type I as very high concentration with the subgroup (a) having very few firms and subgroup (b) having few sellers but includes a competitive fringe of small sellers; Type II is highly concentrated; Type III high moderate; Type IV low moderate and so on, to Type V where less than 35 per cent of the market is controlled by four firms.

In Ontario and Quebec the hatchery output of turkey poults shows a high incidence of concentration. The production of broiler chicks in Ontario and Quebec shows low-moderate concentration. In the Prairies, the production of broiler chicks reveals high-moderate concentration, while turkey poult production is low-moderate, or, Bain's Type IV.

If we assume that the sale of chicks and poults is based on a nation-wide market then concentration would be fairly low since the top eight firms are shown to supply between 30 to 40 per cent of total output. However, even this amount of concentration is significant and would appear to contradict any justification for labelling this type of market one in which a very large number of firms are competing or in economic terms, it would not appear to be an atomistic market. However, since hatcheries rarely compete on an interprovincial or interregional basis, the assumption of a national market is not appropriate. The more confined provincial and regional markets used in Table 4 present a better picture of the degree of concentration in the hatchery industry.

(*4*) The results of these surveys can be found in an unpublished master's thesis, John W. Wood, *Some Aspects of the Marketing and Pricing of Broilers in Ontario*, Ontario Agricultural College, Guelph, 1961, pp. 9-10. See also G. I. Trant and J. H. Nurse, *Broiler Contracts in Ontario*, Ontario Agricultural College, Guelph, 1961, p. 2. Capacity is estimated at the rate of one broiler per square foot of floor space.

(*5*) Assuming an average eviscerated weight per bird of 3.0 pounds; in 1963 the average was 2.9 pounds per bird.

(*6*) There were 190 registered plants in 1963. The data examined here cover 170 registered plants and 61 grading stations. A few small plants have not been included in the data.

(*7*) As with the analysis of seller concentration in the hatchery industry above, Bain's system of classification is once again applied. Concentration appears very high in British Columbia and the Maritimes where one firm processes nearly one-half of the poultry in each region. There is a larger competitive fringe of small firms in British Columbia, compared with the Maritimes and thus it becomes Type I (b). Concentration in the Prairies is high-moderate and in Ontario and Quebec low-moderate concentration prevails. In Ontario, the top eight firms each share very close to the same percentage of the market and except for the largest firm this situation also exists in Quebec.

(*8*) The remaining two plants are within 60 miles of the same major metropolitan areas. Six of these plants are located less than 20 miles from these centres.

(*9*) The poultry processing industry as structured regionally, appears to satisfy the conditions which place it on an oligopoly footing. Evidence of interdependence where one firm's behavior affects that of another, could be found in Ontario where a number of poultry plant managers were interviewed. Here concentration was lower than elsewhere in Canada but despite this there was little doubt that the large firms were keenly aware of their competitors' activities and were very conscious of their position in the industry.

(*10*) See, for example, W. R. Luckham, "Economics of Chicken and Turkey Broiler Production", *Canadian Poultry Review*, August 1964, p. 17.

(*11*) Affiliated industries refer here to manufacturers of wheat flour, breakfast foods, animal and pet foods and other products such as legume and grass meals.

(*12*) Complete feed manufacture for swine totaled 621,860 tons valued at $44.9 million.

(*13*) In order to obtain registration under the Feeds Act a company must apply to the Canada Department of Agriculture and meet the standards set out in the Regulations.

(*14*) This type of behavior is characteristic of oligopoly.

(*15*) This amount includes poultry imported from the United States.

(*16*) B. F. Tobin and N. B. Arthur, *Dynamics of Adjustment in the Broiler Industry*, Harvard University, Boston, 1964, p. 116.

(*17*) Report of the Royal Commission on Price Spreads of Food Products, Volume II, Queen's Printer, Ottawa, 1959, pp. 70-71.

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CHANGING PATTERNS IN CONSUMPTION WITH PARTICULAR REFERENCE TO DAIRY PRODUCTS

D. W. Ware (1)

The application of science and technology and rising incomes has given to western man a continually widening range of choice in his total diet. This substitution or changing pattern of consumption ultimately affects the income of all segments of agriculture through changing demands for farm products.

On a per capita basis, and in terms of retail weights for all products, Canadians are now using about 6 per cent less food in total than they were seven years ago. In the three-year period, 1962-64 Canadians consumed an average of 1,327 pounds of all foods per person a year, compared with an average of 1,411 pounds in 1955-57 (Table 1).

Milk and dairy products were the largest items in the consumer's food basket, accounting for almost 30 per cent of the total in 1962-64. They were followed in descending order by fruits, cereals, potatoes, meats, sugar, and vegetables. Together, these products accounted for almost 90 per cent of the retail weight of food consumed per person in Canada in this period.

Comparing the 1962-64 period with the 1955-57 period—the apparent consumption of seven items—dairy products, pulses and nuts, eggs, potatoes, cereals, fruits, and sugar and syrups, has been declining, whereas the consumption of six other products—poultry meat, coffee, oils and fats (excluding butter), meat, fish, and vegetables, has been increasing.

TABLE 1—APPARENT PER CAPITA DOMESTIC DISAPPEARANCE OF FOOD IN CANADA, AVERAGE 1955-57 AND 1962-64

	1955–57	1962–64	Per Cent Change
	pounds retail weight		
MILK PRODUCTS			
Cheddar Cheese	2.8	3.3	+17.8
Process Cheese	2.9	3.4	+17.2
Other Cheese	1.0	1.6	+60.0
Cottage Cheese	1.0	1.4	+40.0
Evaporated Whole Milk	19.6	17.2	−12.2
Condensed Whole Milk	0.8	0.9	+12.5
Powdered Whole Milk and Cream	0.4	0.3	−25.0
Miscellaneous Whole Milk Products	0.1	0.6	+500.0
Powdered Skim Milk	5.2	7.7	+48.1
Powdered Butter Milk	0.5	0.6	+20.0
Powdered Whey	0.7	1.4	+100.0
Miscellaneous Milk By-products	0.9	1.1	+22.2
Fluid Whole Milk	392.2	323.8	−17.4
Ice Cream	11.4	13.6	+19.3
Butter	20.3	18.1	−10.8
Total	459.8	395.0	−14.1
FRUITS	188.8	182.1	− 3.6
CEREALS	159.7	151.1	− 5.4
POTATOES	156.7	141.6	− 9.6
MEATS			
Pork	38.1	40.6	+ 6.6
Beef	56.6	59.2	+ 4.6
Veal	6.9	5.4	−21.7
Mutton and Lamb	2.1	3.0	+42.8
Offals	4.1	3.2	−22.0
Canned Meats	4.9	5.3	+ 8.2
Total	112.7	116.7	+ 3.5
SUGAR AND SYRUPS			
Sugar	97.3	97.8	+ 0.5
Maple Sugar	0.8	0.7	−12.5
Honey	1.7	1.8	+ 5.9
Other	10.9	9.5	−12.8
Total	110.7	109.8	−0.8
VEGETABLES	97.0	98.0	+ 1.0
OILS AND FATS			
Margarine	7.9	9.4	+19.0
Lard	8.5	7.8	− 8.2
Shortening	9.5	9.9	+ 4.2
Other Fats and Oils	2.7	4.9	+81.9
Total	28.6	32.0	+11.9
POULTRY			
Chicken	19.2	24.0	+25.0
Other Poultry Meat	6.1	8.7	+42.6
Total	25.3	32.7	+29.2
EGGS	36.6	32.7	−10.7
FISH	13.4	13.9	+ 3.7
BEVERAGES			
Tea	2.8	2.4	−14.3
Coffee	7.9	9.4	+19.0
Total	10.7	11.8	+10.3
PULSES AND NUTS	11.0	9.8	−10.9
GRAND TOTAL	1,411.0	1,327.2	− 5.9

FACTORS THOUGHT RESPONSIBLE FOR CHANGING CONSUMPTION PATTERNS

There are many factors responsible for the changing food habits of Canadians. Some of these are the declining percentage of people engaged in manual labour, rising incomes, changing price ratios, the introduction of new methods of food processing and preservation, population shifts, a change in the life-span and age composition, the more widespread

dissemination of nutritional information, and new and improved products and facilities.

Consumer income is often regarded as the most important factor affecting the pattern of food consumption. In Canada, personal disposable income per person, which is a measure of the total amount of money available to consumers to spend or save, rose 28 per cent from $1,280 in 1957 to $1,643 in 1964. During the same period, food outlays rose from $298 per person to $348 or a gain of 17 per cent. Expenditure on food as a percentage of total consumer expenditure, has decreased from 25 per cent in 1957 to 23 per cent in 1964. Thus, although the total quantity of food consumed per person has declined, with higher income levels people tend to choose a wider variety of foods and to substitute higher priced foods for lower priced ones, so that the outlay for food has risen.

The pattern of food consumption in Canada has been affected by changes in the relative prices of food products. Production of poultry, for example, has become very efficient in the last decade, and its price has declined markedly relative to prices of beef and pork. In 1950, when the price of eviscerated chicken was nearly three-fourths that of rib roast, the consumption rate was 13.2 pounds per person. However, by 1964, the retail price per pound of eviscerated chicken was less than one-half that of rib roast and consumption had risen to over 30 pounds per person.

The change in the age composition of the population influences consumption patterns slowly since the very young and older people tend to be small eaters and thus per capita consumption would decline if the trend in the make-up of the population were to shift in this direction. On the other hand, if the population were made up of an increasing proportion of teenagers and people in their early 20's—the heavier eaters—one would expect per capita consumption of such items as meat to increase. In 1966, 33 per cent of the population is estimated to be in the 10-29 year age group, compared with 31 per cent in 1956 (*2*). Such a trend has probably favoured the consumption of meat, sugar and fats.

In the last 15 years, there has been a marked shift to the commercial preparation of foods in Canada. It was estimated by the Royal Commission on Price Spreads of Food Products that between 1949 and 1958 there was an increase of 28 per cent in the quantity of services associated with each unit of food (*3*). Frozen foods, cake mixes, instant potatoes and instant coffee all have reduced the amount of labour involved in preparing foods in the home. These changes influence food consumption because they increase the variety of food items available as well as the competition between foods for a place on the consumer table.

The trend to urban or city living—less than 30 per cent of Canada's population was classified as rural in 1961 compared with 40 per cent in 1951—has been associated with increased mechanization (*4*). Machines have taken over many of the manual tasks in both city and country. Consequently, less food energy per person is required. This combined with changing income levels may have been one of the important factors contributing to the long-term decline in cereal and potato consumption.

The science of nutrition has advanced rapidly in the last 20 years. The public is better informed about nutrition through the efforts of school teachers, home economists, nutritionists, nurses and doctors. A great deal of information about nutrition is widely distributed by radio, television and the press. By whatever means, many more people are now aware of the value of a healthful diet. The growing concern about obesity and heart disease in addition to the advice offered by medical authorities and others has had an influence on food consumption and in turn on the demand for farm products.

TRENDS IN THE CONSUMPTION OF DAIRY PRODUCTS IN CANADA

In Table 1, based on Dominion Bureau of Statistics data, the details with respect to the primary use of dairy products are set out. Fluid milk accounts for the bulk of the total milk and dairy products consumed per person, namely 82 per cent, followed by butter 4.6 per cent, evaporated whole milk 4.4 per cent, ice cream 3.4 per cent, cheese 2.5 per cent, and powdered skim milk 1.9 per cent. These six items make up about 99 per cent of the dairy products consumed per person in Canada.

Fluid Milk and Cream

There has been a decline in the consumption of fluid whole milk (including the fluid equivalent of cream) between 1955-57 and 1962-64 in the order of 65 pounds per person. Part of this decline is statistical due to changes in estimation made on the basis of the 1961 Census.

It is sometimes suggested that the consumption of soft drinks influences fluid milk consumption. This may or may not be the case. Carbonated beverage production in Canada has shown an increase in per capita production from 32 quarts per person in 1955-57 to 37 quarts in 1961-63, or 16.0 per cent (*5*). This is in part a sign of a more affluent society and one expects that the increase will continue.

The main reason for the decline in fluid milk consumption is the substitution of powdered milk for

fresh milk. A detailed study of the consumption of powdered skim milk in Canada was made by the Economics Branch (*6*).

The study indicates that this substitution may have occurred because of the price advantage of skim milk powder. For example, in 1964 a 3 pound package of powder yielded 12.8 quarts of reconstituted skim milk at a price of about 9 cents a quart of milk. During the same year, the national retail price of fluid milk averaged about 25 cents a quart.

Two Per Cent Milk

The use of milk of a lower fat content has increased sharply in the past five years. During the January to September period of 1965, according to the Dominion Bureau of Statistics, there were 1.1 billion quarts of fluid milk sold in Canada (*7*). Twenty per cent of this was two per cent milk, or, for every five quarts of fluid milk sold in 1965, one quart was two per cent milk. This was the first year that such a comparison could be made on a national basis, but if one examines the statistics for Ontario, where this product has been available for several years, one finds a continuing increase in the use of two per cent milk. What are the implications of this shift?

Firstly, it indicates that the processors wish to make maximum use of the raw product. This is accomplished by selling partially skimmed milk and using its butterfat in such well-selling products as table cream, butter, creamed cottage cheese and ice cream. It also suggests that consumers are willing to buy butterfat in other forms than whole milk and may have become more price conscious as far as fluid milk is concerned.

Table 1 indicates that the per capita consumption of fluid milk and cream has been declining. Without the introduction of two per cent milk, or greater product differentiation, the reduction might have been substantially greater.

Comparing Canadian consumption of fluid milk and cream per person with that in other countries, Canada in 1964 ranked tenth among 17 countries. We use more per person than the United States, Australia, France and the Netherlands, but trail such countries as Finland, Norway, New Zealand and the United Kingdom.

Butter Consumption

On a per capita basis, the consumption of butter in Canada between 1955-57 and 1962-64 declined about 11 per cent, from 20.3 pounds per person to 18.1 pounds. On the other hand, the consumption of margarine increased 19 per cent, from 7.9 pounds per person to 9.4. The use of other fats, mainly for cooking purposes, such as shortening also increased. About one-half the total consumption of oils and fats, including butter is used for cooking in Canada.

The decline in the per capita consumption of butter may be associated with the decline in bread consumption. The over-all consumption of cereals has been declining slowly—from an average of 160 pounds per person in 1955-57 to 151 pounds in 1962-64. This may be used as an indicator of the consumption of bread, buns and other products which require spreads.

In comparison with 17 other countries Canada ranked eighth in 1964 in terms of butter consumption per person, being above such countries as the United States, which was sixteenth, France, Denmark and the Netherlands (*8*).

Canadian experience since 1962 indicates that butter consumption is responsive to price changes. This is illustrated by the increase in the per capita consumption of butter, which was associated with the drop in the retail price in May 1962. Butter consumption rose from 15.8 pounds per capita in 1961 to 18.2 pounds in 1965. It is too soon to assess the impact of the 1966 increase in retail price on per capita consumption, but past experience indicates a drop in the order of 5 per cent may take place.

Prior to the introduction of the butter subsidy in May 1962, the ice cream industry principally used fresh milk and cream in the production of ice cream and only about one million pounds of butter annually. After May 1962, ice cream manufacturers substituted butter and dry skimmed milk for fresh milk to make ice cream. Fresh butter utilized in this fashion is commonly counted in butter consumption statistics but it has been excluded from the butter consumption figures in Table 1 because it is included in the consumption figures for ice cream. During the 1962-64 period, butter used in ice cream averaged 12 million pounds annually, or less than a pound per person (Table 2).

Ice Cream

The consumption of ice cream has increased from 11.4 pounds per capita in 1955-57 to an average of 13.6 pounds per person in 1962-64, or by 19 per cent.

United States Department of Agriculture studies indicate that ice cream consumption is responsive to increases in incomes. However, rising incomes are not the only factor pushing per capita consumption higher. The proportion of homes with facilities for storing ice cream has increased sharply. An increasing proportion of families buy ice cream on a regular basis, both for home use and at "drive-ins".

Cheese

Consumption of cheddar cheese, process cheese, cottage cheese and other cheeses is trending upwards. This is associated with changes in the characteristics

TABLE 2—ESTIMATED BUTTER USE IN ICE CREAM, AVERAGE 1962-64

	Milk Equivalent	Per Cent of Total	Ice Cream			Butter Used in Ice Cream	
			Total Quantity	Per Capita		Total Quantity	Per Capita
	000 lb.		000 gal.	gal.	lb.	000 lb.	lb.
Fresh milk used in ice cream	508,332	64	29,902	1.5821	8.8	—	—
Butter used in ice cream	286,792	36	16,870	0.8926	4.8	12,256	0.65
Total ice cream	795,124	100	46,772	2.4747	13.6	—	—

of the population, but probably most of all with the rising income levels of the majority of Canadians, which enables them to purchase a wider choice of cheeses. Thus, substantial expansion in sales has occurred for process cheese and foreign-type cheeses in the past few years. Increasing use of processed cheeses has led to a greater appreciation of soft cheeses having a wide variety of flavors. There has also been a spectacular rise in the per capita consumption of cottage cheese, which is also being offered with a wider range of flavors. This latter product is entirely domestically produced, whereas about half of the "foreign-type or non-cheddar cheeses" sold in Canada are imported.

Evaporated Whole Milk

Among the concentrated dairy products, evaporated milk has in the past held a prominent place. Per capita consumption declined by 12 per cent in the study period mainly because of the substitution of miscellaneous whole milk products in baby formula foods. Consumption of these other products has increased five-fold.

Summary

In terms of product, fluid milk, butter and ice cream account for 90 per cent of the retail weight of dairy products consumed, and the same percentage in terms of milk sales from the farm. Therefore, unless exceptionally large gains in consumption are made, any change in the per capita consumption of such products as cheese and evaporated whole milk will not alter greatly the overall domestic demand for milk.

FUTURE DEVELOPMENTS

A review of past and present per capita consumption patterns gives some indication of what might reasonably be expected in the next 5 years. Canada's total population is expected to reach about 22 million in 1971 and the average income per person is expected to rise also. If such is the case, these two factors will provide a larger and increasingly selective market for farm products.

More and more processing, selection, packaging and pre-cooking of agricultural products is taking place before the final product reaches the consumer. With the continuing development of specialization, mass marketing and the growth of cities, this trend is likely to continue. One of the principal results of this is that the demand for the product at the "farm gate" becomes further removed from the final consumer, and the mass-handling of products calls for a large and dependable volume of standardized, graded products.

The current trend in dairy manufacturing is to create a new mix of butterfat and solids-non-fat. Here we can point to "2% milk", skim milk powder and ice milk. The combination of new flavors as in cottage and process cheeses, together with a new and variable mix of butterfat and solids-non-fat appears to offer considerable opportunities for the dairy industry from the primary producer through to the retail outlet.

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USE OF FARM CREDIT IN SASKATCHEWAN, 1960-64

M. Ragush

The capital structure of Saskatchewan farms in terms of value of real estate, machinery and livestock has been changing rapidly in recent years. A number of factors have contributed to this but the principal ones were rising land values and larger farm sizes with the attendant requirements for machinery and livestock. These changes in part reflect the continuing commercialization of agriculture and they have been accompanied by expanding requirements for credit, both for investment capital and operating capital. The purpose of this article is to describe the extent of credit use on various sizes and types of farms in selected areas of the prairie region of Saskatchewan for the period 1960-64.

Information on farm debt and use of credit was collected as part of a study of changes in farm organization on farms in five areas of low, medium and high productivity soils in the Brown and Dark Brown soil zones of Saskatchewan (*1*). The 350 sample farms selected for study represented the major sizes and types of farms in each area. The farms were grouped as grain farms and grain-cattle farms by two size groupings. The medium size grain farms were four to six quarter sections with 480 to 640 acres of improved land and no cattle other than a few for home use. The medium size grain-cattle farms were similar to the medium size grain farms but included a cattle enterprise of ten or more beef cows. The large size grain farms had six to nine quarter sections with 800 to 1,400 acres under cultivation and only a small number of cattle, if any. Large grain-cattle farms ranged from six to nine quarter sections, or 800 to 1,400 acres of improved land and had ten or more beef cows.

Study procedures were similar for all of the five study areas. The data were obtained by personal interview and included all the information required to show the capital investment, income, expenses, production practices and indebtedness of each farm.

Farm Capital

In this article the use of farm credit is related to owned (non-rented) capital. The value of owned assets was considered to be a better indication of the borrowing power of the farm operators than the value of all capital on these farms, that is, both owned and rented capital. Rented real estate does, however, constitute an important part of farm capital on Saskatchewan farms. About 26 per cent of the total real estate on the 350 farms studied during the five-year period was rented (Table 1). None of the capital in machinery and livestock was rented.

The value of capital on farms in the Dark Brown soil zone was slightly higher than on farms of the same size and type in the Brown soil zone and considerably higher for farms on heavier textured soils than on the lighter textured soils. The total owned capital for the 18 groups of farms ranged by group averages from $27,007 to $59,945 and averaged $45,577 for the 350 farms studied (Table 1). The owned capital investment on grain-cattle farms compared to grain farms was higher by approximately the same amount as the difference in the value of the livestock. The average difference in value of capital between the grain farms and the grain-cattle farms was about $6,000. Farm capital for the large-sized groups of farms of both types in all areas averaged about 50 per cent higher than on the medium-sized groups of farms; about $19,400 by groupings.

Type of Credit

Credit was classified as long term (5 years or more), intermediate term (1 to 4 years) and short term (less than 1 year). Short term credit included such current expenses as fuel, building materials, machinery repairs, and taxes. Some of these items were on charge accounts for convenience purposes to be paid when billed. Most of the farmers interviewed indicated that these short term commitments would be met on or about the time that such items were due for payment and, therefore, could not be considered as debts.

A higher proportion of the farms had intermediate term credit (47 per cent) than long term credit (33 per cent) but the average amount of intermediate term credit reported was lower. Seventy-six of the 350 farms (22 per cent) had both long and intermediate term credit. Forty-one per cent of the farms were debt-free (Table 2).

The credit sources for the 114 farms reporting long-term loans were as follows: private lenders, 35 per cent; Farm Credit Corporation, 32 per cent; Veterans' Land Act, 12 per cent; credit unions, 8 per cent; mortgage companies, 6 per cent; and other sources, 7 per cent. The credit sources for the 166 farms reporting intermediate term loans were: F.I.L.A., 57 per cent; finance companies, 10 per cent; banks, 9 per cent; private lenders, 8 per cent; and others, 5 per cent. Private sources of credit usually involved family transactions.

TABLE 1—FARM CAPITAL BY SIZE AND TYPE OF FARM FOR FIVE SOIL GROUPINGS IN THE PRAIRIE AREA OF SASKATCHEWAN, 1960-64

	Brown Soil Zone		Dark Brown Soil Zone			All Soil Groups
	Light	Medium	Light	Medium	Heavy	
Year of study	1963	1961	1962	1964	1960	1960–64
Number of farms	79	80	64	77	50	350
Medium Size Grain Farms (102)						
Total real estate ($)	21,671	21,966	20,563	37,747	39,480	29,051
Rented real estate ($)	3,053	5,960	6,483	7,067	10,023	6,724
Owned real estate ($)	18,618	16,006	14,080	30,680	29,457	22,327
Owned equipment ($)	7.742	8,695	9,710	13,692	12,420	10,589
Owned livestock ($)	647	967	946	365	170	590
Total owned capital ($)	27,007	25,668	24,736	44,737	42,047	33,506
Rented/owned capital ratio	0.113	0.232	0.262	0.158	0.238	0.201
Medium Size Grain-Cattle Farms (75)						
Total real estate ($)	28,147	25,579	23,008	35,491	—	28,295
Rented real estate ($)	8,586	4,140	4,700	8,568	—	6,619
Owned real estate ($)	19,561	21,439	18,308	26,923	—	21,676
Owned equipment ($)	8,583	11,899	9,798	11,532	—	10,457
Owned livestock ($)	10,309	5,781	6,026	6,311	—	7,232
Total owned capital ($)	38,453	39,119	34,132	44,766	—	39,365
Rented/owned capital ratio	0.223	0.106	0.138	0.191	—	0.168
Large Size Grain Farms (97)						
Total real estate ($)	38,397	36,029	35,956	61,855	67,771	49,989
Rented real estate ($)	6,226	8,250	10,892	19,255	24,332	14,622
Owned real estate ($)	32,171	27,779	25,064	42,600	43,439	35,367
Owned equipment ($)	16,897	15,160	11,572	22,274	16,060	16,718
Owned livestock ($)	864	1,214	964	177	446	700
Total owned capital ($)	49,932	44,153	37,600	65,051	59,945	52,785
Rented/owned capital ratio	0.125	0.187	0.290	0.296	0.406	0.277
Large Size Grain-Cattle Farms (76)						
Total real estate ($)	38,655	42,288	36,642	60,241	—	44,247
Rented real estate ($)	9,350	12,430	7,228	17,078	—	11,488
Owned real estate ($)	29,305	29,858	29,414	43,163	—	32,759
Owned equipment ($)	16,216	16,612	14,166	22,780	—	17,389
Owned livestock ($)	10,837	8,264	6,823	8,089	—	8,558
Total owned capital ($)	56,358	54,734	50,403	74,032	—	58,706
Rented/owned capital ratio	0.166	0.227	0.143	0.231	—	0.196
All Sizes and Types of Farms (350)						
Total real estate ($)	31,715	31,466	28,785	48,711	53,626	37,991
Rented real estate ($)	6,881	7,695	7,170	12,943	17,178	9,925
Owned real estate ($)	24,834	23,771	21,615	35,768	36,448	28,066
Owned equipment ($)	12,313	13,092	11,362	17,513	14,240	13,736
Owned livestock ($)	5,847	4,056	3,793	3,588	308	3,775
Total owned capital ($)	42,994	40,919	36,770	56,869	50,996	45,577
Rented/owned capital ratio	0.160	0.188	0.195	0.228	0.337	0.218

TABLE 2—TYPE OF FARM DEBT FOR 350 FARMS IN THE PRAIRIE AREA OF SASKATCHEWAN, 1960-64

Type of Credit	Outstanding Debts				Main Sources of Credit
	No.	Value	Percentage Reporting	Av. Value 350 Farms	
		$		$	
Long term	114	6,407	33	2,087	Private, F.C.C., V.L.A., Credit Union, Mortgage Companies
Intermediate term	166	2,485	47	1,179	F.I.L.A., Credit Union, Finance Companies, banks, private
Short term	2	1,150	1	6	Municipal taxes
Total debt	206	5,560	59	3,272	
Farms reporting no debts	144	—	41	—	

TABLE 3—FARM DEBT BY SIZE AND TYPE OF FARM FOR FIVE SOIL GROUPINGS IN THE PRAIRIE AREA OF SASKATCHEWAN, 1960-64

	Brown Soil Zone		Dark Brown Soil Zone			All Soil Types
	Light	Medium	Light	Medium	Heavy	
Year of study	1963	1961	1962	1964	1960	1960–64
Number of farms	79	80	64	77	50	350
Medium Size Grain Farms						
Number of farms	19	20	18	20	25	102
Per cent no debt	57.9	45.0	50.0	50.0	16.0	42.2
Per cent $1 –$ 9,999	42.1	50.0	44.4	50.0	72.0	52.9
Per cent $10,000–$19,999	—	5.0	5.6	—	—	2.0
Per cent $20,000 and over	—	—	—	—	12.0	2.9
Average debt per farm ($)	1,189	2,016	1,582	1,680	5,243	2,510
Medium Size Grain-Cattle Farms						
Number of farms	21	20	15	19	—	75
Per cent no debt	42.8	25.0	20.0	47.4	—	34.7
Per cent $1 –$ 9,999	47.6	75.0	73.3	47.4	—	60.0
Per cent $10,000–$19,999	4.8	—	6.7	5.2	—	4.0
Per cent $20,000 and over	4.8	—	—	—	—	1.3
Average debt per farm ($)	3,785	1,864	3,679	2,806	—	3,004
Large Size Grain Farms						
Number of farms	19	20	13	20	25	97
Per cent no debt	63.2	15.0	53.8	60.0	48.0	47.4
Per cent $1 –$ 9,999	36.8	65.0	30.8	40.0	32.0	41.2
Per cent $10,000–$19,999	—	15.0	7.7	—	12.0	7.2
Per cent $20,000 and over	—	5.0	7.7	—	8.0	4.2
Average debt per farm ($)	1,206	6,150	3,654	1,150	5,332	3,605
Large Size Grain-Cattle Farms						
Number of farms	20	20	18	18	—	76
Per cent no debt	45.0	20.0	55.6	27.8	—	36.9
Per cent $1 –$ 9,999	50.0	70.0	33.3	55.6	—	52.6
Per cent $10,000–$19,999	5.0	10.0	11.1	5.5	—	7.9
Per cent $20,000 and over	—	—	—	11.1	—	2.6
Average debt per farm ($)	3,718	4,048	3,092	5,735	—	4,134
All Sizes and Types of Farms						
Number of farms	79	80	64	77	50	350
Per cent no debt	51.9	26.2	45.3	46.8	32.0	40.9
Per cent $1 –$ 9,999	44.3	65.0	45.3	48.0	52.0	51.1
Per cent $10,000–$19,999	2.5	7.5	7.8	2.6	6.0	5.1
Per cent $20,000 and over	1.3	1.3	1.6	2.6	10.0	2.9
Average debt per farm ($)	2,523	3,519	2,919	2,768	5,288	3,272

Use of Credit Classified by Soil Type

The percentage of farmers with debt was highest for farms on medium textured soils in the Brown soil zone but the average debt per farm was highest for the farms on heavy textured soils in the Dark Brown soil zone. The percentage of farmers reporting debts was lowest for the least productive soil area; the light textured soils in the Brown soil zone. The higher average debt for the most productive soils was due principally to the much larger proportion (10 per cent) with a debt of over $20,000 (Table 3). Of the 350 farmers surveyed in the five areas, 8.0 per cent had debts of $10,000 and over but only 2.9 per cent had debts of $20,000 and over.

Use of Credit Classified by Size of Farm

Generally, the large size farms had higher average debts per farm than medium size farms with similar soil and type of farm characteristics (Table 3). The exceptions were the large size grain farm grouping on medium textured soils in the Dark Brown soil zone and the grain-cattle farms on light textured soils. The average indebtedness on the 177 medium size grain and grain-cattle farms in the five areas was $2,719 and on the 173 large size grain and grain-cattle farms it was $3,838.

Use of Credit by Type of Farm

The average debt on grain-cattle farms for the four areas which allowed comparison (excluding the heavy textured soils area) was higher generally than for the grain farms. The exceptions to this pattern were the farms on medium textured soils and the large size farms on light textured soils in the Dark Brown soil zone (Table 3).

Use of Credit Classified by Age of Operator

Farmers under 34 years of age had higher average debts than farmers aged 34 years and over (Table 4). Furthermore, the proportion of farms with large debts ($10,000 and over) decreased as the age of the operator increased (15, 8, and 5 per cent for the three age groups).

Debt-Asset Ratio

The use of credit in relation to owned farm capital was determined by calculating the debt-asset ratio (dollars of debt per dollar of assets) of each farm. The analysis of the debt-asset ratios in relation to soil type indicated that farms on heavier textured soils had higher debt-asset ratios than those on lighter soils. The only exception to this pattern was the farms on medium productivity soils in the Dark Brown soil zone which had the lowest debt-asset ratio. This may have been due in part to the upward trend in the value of real estate and machinery during the period 1960-64 which tended to obscure the relationship of soil type with debt-asset ratios. Examination of the debt-asset ratios by year of study for the five study years showed that the debt-asset ratios for all farms had declined in each successive year. The debt-asset ratio was $0.104 in 1960, $0.086 in 1961, $0.079 in 1962, $0.059 in 1963, and $0.049 in 1964.

Differences in the debt-asset ratios due to size and type of farm were extremely variable by individual farm for the five soil areas indicating that size and type of farm had little or no relationship to the debt-asset ratios. This result was verified by the fact that no significant difference was found in the overall average debt-asset ratios for the four size-type groups of farms in the five study areas. The average debt-asset ratio for the 102 medium size grain farms was $0.075; for the 75 medium size-grain-cattle farms $0.076; the 97 large grain farms averaged $0.068; and the 76 large grain-cattle farms had an average debt-asset ratio of $0.070.

Summary

Average debt per farm for the 350 farms studied in the five soil areas was $3,272, or $5,560 per farm reporting debts. The average value of owned farm capital was $45,577, for a debt-asset ratio of 0.072. Forty-one per cent of these farms were debt-free, 51 per cent had debts in the range of $1 to $9,999, 5 per cent had debts ranging from $10,000 to $19,999, and three per cent had debts of $20,000 and over. However, if the rented real estate that the farmers were

TABLE 4—AVERAGE FARM DEBT BY AGE OF OPERATOR FOR 350 FARMS IN THE PRAIRIE AREA OF SASKATCHEWAN, 1960-64

Age of Operator	No. of Farms	Average Debt All Farms	Percentage Reporting Debts	Average Debt Reported	Distribution by Size of Debt			
					No Debt	$1—$9,999	$10,000—$19,999	$20,000 and over
		$		$	—per cent of debts reported—			
Under 34 years	47	5,068	83	6,268	17.0	68.1	12.8	2.1
34 to 49 years	180	3,427	63	5,459	37.2	54.4	5.1	3.3
50 years and over	123	2,359	45	5,276	55.3	39.9	2.4	2.4

operating at the time of survey (55 per cent of the farms) was considered as a type of credit, the debt picture would change very significantly. The value of rented real estate averaged $9,925 for the 350 farms or a rented-owned capital ratio of 0.218. This would raise the total average debt per farm to $13,197 and the debt-asset ratio to 0.290.

There was a decline in the debt-asset ratio in each survey year. The debt-asset ratio decreased from 0.104 to 0.049 in the five-year period. This is an indication that the expansion of credit has lagged somewhat behind the rise in land values.

The type of soil, size of farm, type of farm and age of operator were some of the other factors studied in relation to the use of credit. Generally, farms on the heaviest textured soils had the highest average debt and farms on the light textured soils had the lowest average debt. The average debt was higher on large size farms than on medium size farms and also on grain-cattle farms than on grain farms. Younger farmers had larger debts than those who had been farming for a greater number of years.

REFERENCE

(*1*) Data were obtained from the 1960-64 Saskatchewan studies of *Changes in Farm Organization* conducted by the Economics Branch, Canada Department of Agriculture.

FARMERS' ESTIMATION OF ACREAGE IN COMPARISON WITH MEASUREMENTS FROM AERIAL PHOTOGRAPHS, MANITOBA, 1961

L. E. Philpotts

People who are concerned with surveys and statistics are constantly trying to improve the quality and accuracy of information obtained and determining the reasons for errors which occur in economic data. This is of particular concern with respect to census data, which forms the benchmark for so much of our economic statistics (*1*, p. 1).

This paper deals with measurements made on aerial photographs of agricultural acreages in comparison with the same acreages located and recorded by enumerators in the quality check of the 1961 Census of Agriculture. No attempt was made to compare the aerial photographic measurements directly with data from the 1961 Census of Agriculture itself.

AREA STUDIED

The area studied comprised portions of 46 sample segments in Manitoba and involved a total acreage of about 135 square miles. The segments contained 174 complete farms and parts of 87 farms whose headquarters were not located within the sample segments. Over 1,700 fields of crops and other agricultural land uses were enumerated and interpreted. Of these, over 1,100 fields were within complete farms.

METHOD

Enumeration

Each field was described to the Census Quality Check enumerator by the farmer. The description, recorded on the questionnaire included the crops grown, the land use and the acreages of the fields. Aerial photographs which had been taken in the spring when seeding was completed, were carried into the field by the enumerators.

Measurement

The average scale of the aerial photographs was one inch to 15,800 inches, a 6″ focal length having been used. It was necessary to scale each individual photograph as the scale varied between adjacent photographs. All field boundaries could be identified by stereoscopic viewer and the boundaries of most fields could be recognized by a monoscopic viewer.

Measurements were taken directly from the aerial photographs. A number of transparent grids having minor scale adjustments were constructed and used. Because of the degree of accuracy which can be obtained by the use of transparent grids, the projecting of a master grid and the use of a reliable compensating polar planimeter was not warranted. The smallest unit of a grid consists of one-tenth acre and it is possible with the unaided eye to measure 0.025 acre or any reasonable breakdown of the grid unit. The transparent grid was placed, generally, over an identifiable farm area such as a quarter-section or a complete section (640 acres) of land. After the scale of the aerial photograph was fixed the grid was moved to allow alignment with smaller areas such as a wheat field within a general identifiable area and so on.

In the area studied only two types of topographic relief were encountered. These were level to undulating with slopes of zero to three per cent, and rolling with slopes of three to five per cent. Of the total acreage involved in the segments only 0.02 per cent represented additional acreage due to the slope of the land in the area of rolling topography. The slope factor was negligible also in the level to undulating areas.

TYPES OF CROPS AND LAND USES

Nine main combinations of crops and agricultural land uses were involved in the study. These were: grains; oilseeds; fodder crops; improved pasture; other improved land; summerfallow; unimproved land; special crops of sugar beets and flax for fibre; and potatoes. The grains included: spring and durum wheats; oats, except that cut for green feed; barley; rye; mixed grains; corn for grain; buckwheat; field peas; and beans. Flax, rapeseed, and other oilseeds made up the oilseed category.

The fodder crops included: hay, mixed tame hay and hay for seed and silage; corn for fodder or silage; oats for green feed or silage; and other fodder crops.

The "other improved acreage" category consisted of barnyards, farm lanes and gardens.

The "unimproved land" included woodland such as wood lots, windbreaks, cut-over woodland, and other unimproved land including native pasture, unimproved hay land, sloughs and marshes.

The following physical features were identified and deleted from the field acreages: stone and refuse piles; clumps of trees; headlands; hay and straw stacks; barns and granaries; farm roads and well travelled lanes; ditches; dugouts; and stockwatering dams. Many of these represented features not eliminated from the crop acreages estimated by the farmers.

PHYSICAL AND ECONOMIC INTERPRETATION CATEGORIES

The objective of the aerial photographic interpreters was to determine the mathematical difference between the data of the Census Quality Check enumeration and that taken from aerial photographs (*1*, p. 1). These differences are discussed under five main physical and economic categories:

(1) the sizes of farms from 2 to 69 acres, 70 to 239, 240 to 399 400 to 559, 560 to 759, and from 760 to 1,599 acres;

(2) the sizes of fields from one to 14 acres, 15 to 25, 26 to 35, 36 to 45, 46 to 85, 86 to 165, 166 to 325, and from 326 acres and over;

(3) the shapes of fields including the square or rectangular field containing from zero to three sloughs, the square or rectangular field containing four sloughs and over, and the odd-shaped field associated with many sloughs;

(4) the topography of the fields including level to undulating or rolling; and,

(5) the number of Prairie Farm Assistance Act payments over a twenty-year period in the township involved.

MEASUREMENTS AND FARMERS' ESTIMATIONS

The total amount of agricultural land measured on the aerial photographs was 86,120.9 acres. This amount was 825.6 acres or 1.0 per cent less than that estimated by the farmers for the Census Quality Check enumerators.

There are certain factors which lead to the overestimating (1.0 per cent) by the farmers of their acreages. Each quarter section in the Prairie Provinces consists of 160 acres more or less, but when enumerated, farmers generally assume that each quarter section has 160 acres. Original surveys, resurveys, and photographic measurements indicate that a "quarter section" may vary from 153 acres to about 168 acres. The rounding of figures in the estimates may also account for some differences.

Another factor affecting farmers' estimates of acreage is where a public road or a railway crosses a farm, cuts off a corner, bends around a slough which is situated in a road allowance or where a public road has been widened. This also applies to public ditches or canals located on farmland. Farmers tend to underestimate the acreage lost to these forms of land use. However, in some cases the farmer may actually be pasturing or cultivating rights-of-way in which case he gains some acreage or has the use of it.

In the five main categories of study the farmers overestimated grain acreages with the exception of the category from 70 to 239 acres. All categories showed summerfallow acreages overestimated. Although there was an overestimation of the acreages in the special crops, there were insufficient units to provide a reliable indication.

In the four study categories of size of the farm with 240 acres and over there was an increase in the overestimation of the grains with increasing size of farm. All sizes of farms had an overestimation of summerfallow acreage. However, only the size of farms from 760 to 1,599 acres had an overestimation which was greater than the average overestimate of 5.6 per cent.

While the acreages in the above forms of land use were overestimated by the farmers, there was a tendency, on the other hand, to underestimate the acreages of unimproved land, improved pasture and other improved areas, and the fodder crops.

The greatest underestimating of these acreages was for farms of 760 to 1,599 acres in size. The area of improved pasture land was underestimated by 40.4 per cent by this group. However, the possibility exists that at least part of this difference is accounted for by a difference in definition as to what constitutes "unimproved" pasture land. This group of farmers overestimated the "unimproved" land acreage by 16.4 per cent.

Sizes of fields

Overestimation was more prevalent on the smaller fields of from one to 45 acres in size than for the larger fields. In fields from about 45 to 165 acres in size, the average error of estimation was lowest for the grain acreage. This may be the result of the uniform size of fields of 40, 80, 120 and 160 acres commonly found in grain production in the study area and which are maintained from year to year. These field sizes represented 46.5 per cent of the grain fields enumerated and 64.6 per cent of the total grain acreage. In other field sizes, the acreages were overestimated.

The greatest underestimation of acreages was for "other improved land", farm lanes, building areas, and gardens. The percentage of underestimation by farmers in the grouping of field sizes from 15 to 25 and from 36 to 45 acres was 41.6 per cent and 44.1 per cent, respectively, for this category of land use.

The acreage of improved pasture land of one to 14 acres was overestimated because of the interrelationship with overall field sizes which were overestimated also. No obvious explanation can be given for the underestimates in the field sizes of from 15 to 35 acres and from 46 acres and larger sizes and the overestimation in the 36 to 45 acre category, unless it is again a question of definition.

Shapes of fields

Farmers tended to overestimate the acreages of fields that were square or rectangular and containing over three sloughs, more than any other field shape category. The percentage of error in estimation of the grain acreages was relatively low for the square or

rectangular fields containing 0 to 3 sloughs, and for the odd-shaped fields. Farmers overestimated grain acreages an average of 16.6 per cent for square or rectangular fields containing 4 or more sloughs. However, only 3.3 per cent of the total grain acreage was in this last category in the sample.

One would expect that the acreage of odd-shaped fields would be more difficult to estimate accurately than for a square or rectangular field. Farmers do not appear to take into account the acreage in sloughs or potholes in estimating field acreages. Sometimes farmers in the prairie region plant these areas in dry years but they can be flooded following heavy rains.

The greatest acreage underestimation in relation to shape of field was for improved pastures and other improved areas where the fields were square or rectangular and contained 4 or more sloughs.

Topography

As noted previously, two general topographical forms prevailed in the area, namely, level to undulating, and rolling. About 16.5 per cent of the total area studied had a rolling topography. The additional acreage due to slope was negligible for both types of topography as compared with a plane surface.

P.F.A.A. assistance payments to farmers

There was little difference in the error of estimation between farms in those townships with a low number of P.F.A.A. payments and those with a high number of payments when the entire amount of improved land was taken into consideration. In the areas where from zero to four payments were made the overestimation by the farmers was 2.5 per cent and 0.5 per cent in

TABLE 1—PERCENTAGE OF OVER-AND UNDER-ESTIMATING BY FARMERS OF ACREAGE IN COMPARISON TO MEASUREMENTS MADE ON AERIAL PHOTOS ACCORDING TO THIRTY-TWO PHYSICAL AND ECONOMIC CATEGORIES, MANITOBA, 1961

Physical and Economic Category	Agricultural Land Use							
	All Grains	All Oilseeds	Summer Fallow	All Fodder	Improved Pasture	Other Improved	Special Crops[b]	Un-improved
	per cent							
All categories[a] (universe)	+ 3.4	− 1.2	+ 5.6	− 1.3	− 1.9	− 8.6	+15.6	− 3.4
Size of farm in acres—								
2 to 69	− 1.4	—	+ 4.4	−11.7	−15.6	− 2.3	—	0.0
70 to 239	0.0	− 4.4	+ 5.3	−13.8	+ 5.8	− 1.0	+ 7.9	− 7.9
240 to 399	+ 2.4	− 4.2	+ 5.3	− 4.1	− 0.5	+ 5.8	0.0	− 4.8
400 to 559	+ 3.5	− 6.5	+ 5.1	+ 5.3	−10.3	−20.1	—	− 2.2
560 to 759	+ 5.2	+ 1.7	+ 4.2	− 4.6	+ 4.9	−20.5	—	− 2.5
760 to 1,599	+ 7.6	+ 4.5	+12.2	− 6.2	−40.4	− 3.3	—	+16.4
Size of field in acres—								
1 to 14	+12.0	+23.5	+33.9	+12.0	+16.6	− 1.0	—	+29.2
15 to 25	+ 6.7	+10.3	+12.5	+ 4.8	− 4.5	−41.6	+27.8	+ 2.2
26 to 35	+ 6.7	+22.4	+15.4	− 8.8	− 9.4	—	—	−10.0
36 to 45	+ 9.9	−10.8	+ 6.0	+ 3.7	+17.4	−44.1	0.0	− 6.6
46 to 85	+ 1.4	− 6.3	+ 5.7	− 8.0	− 2.8	− 3.9	—	−14.0
86 to 165	+ 0.6	− 0.6	+ 5.8	− 1.4	−28.3	—	—	− 9.9
166 to 325	+ 7.1	—	+ 1.5	− 1.6	—	—	—	+ 0.7
326 & over	+ 5.5	—	+ 0.1	—	—	—	—	+ 3.5
Shape of field—								
rectangular[c] incl. 0 to 3 sloughs	+ 3.3	− 3.0	+ 3.0	− 5.5	+ 1.6	− 9.8	+15.6	− 1.0
rectangular[c] incl. 4 or more sloughs	+16.6	+ 1.3	+25.3	− 2.2	− 6.3	−41.0	—	+ 2.1
odd-shaped & many sloughs	+ 4.0	+ 6.6	+ 7.9	+ 8.5	− 6.1	+ 1.0	—	− 6.9
Topography—								
level to undulating	+ 2.8	+ 1.9	+ 3.4	− 1.6	− 0.8	− 6.7	+15.6	− 3.3
rolling	+ 6.5	+ 1.4	+11.7	+ 3.0	− 7.3	−23.2	—	+11.7
Number of assistance payments during a twenty year period—								
0 to 4	+ 3.2	− 1.9	+ 5.2	+ 0.8	+ 4.0	− 8.5	+15.6	− 4.4
5 to 9	+ 3.7	+ 0.1	+ 4.2	− 3.8	−17.2	− 5.6	—	− 1.6
10 to 14	+ 7.8	—	+ 7.6	− 5.4	−21.6	−33.7	—	+ 1.5

[a] The single field of potatoes is not included.
[b] Not a significant number of units or acreage.
[c] Rectangular includes square fields.

areas with from five to nine payments. The farmers underestimated acreages by 0.9 per cent in the areas where from ten to fourteen payments were made.

It is interesting to note that on the farms with acreages of fodder and improved pasture, but with no grain, oilseed or summerfallow acreage, the overestimations were well above the average overestimation in all the assistance payment categories. The overestimation was highest (16.8 per cent) in the areas receiving ten to fourteen payments. On the other hand, the farmers considerably underestimated the acreages of fodder and improved pasture on the farms which contained also grains, oilseeds or summerfallow.

SUMMARY

An aerial photographic measurement of 1,705 enumerated fields associated with the Quality Check of the 1961 Census of Agriculture indicated important differences between the enumerated acreages of the Quality Check based on farmers' estimations, and the photographic interpretation.

In five main physical and economic categories, the farmers overestimated the grain acreages, except for sizes of farms from 2 to 239 acres, and they overestimated the acreages of summerfallow in all categories. The highest overestimation in the grain areas was concerned with the shape of a field having a square or rectangular boundary and containing four or more sloughs. Here the overestimating by the farmers was 17 per cent. The highest overestimation for any crop or land or land use in the study, 34 per cent, was for field sizes of from one to 14 acres.

This survey points up several factors which must be considered in collecting data on field acreages by personal interview. Probably the most important consideration is that farmers' estimates cannot be expected to be exactly precise for any given year. This is not possible for a number of very good reasons. A second consideration is the time at which the survey is taken. A generally dry and early spring will mean fewer depressional areas which cannot be worked and seeded. On the other hand, a late spring following a winter of heavy snowfall or heavy spring rains can mean that depressions and sloughs will be water-filled until after normal seeding time and even into midsummer. A third consideration is the terminology used to describe land use. In enumerating land use it is important that the enumerators have a clear understanding of the purpose for which land is used in order to uniformly categorize it. Also, enumerators and those responsible for designing questionnaires must be thoroughly familiar with local land descriptions used by farmers and be able to relate these to more general purpose classifications.

REFERENCE

(*1*) Colin R. Muirhead, *Report on the Quality Check of the 1961 Census of Agriculture*, Sampling and Survey Research Staff, Dominion Bureau of Statistics, mimeo., 1962.

DIRECT FINANCIAL ASSISTANCE TO AGRICULTURE BY THE FEDERAL GOVERNMENT, 1964-65

Mary A. Bradley

The Federal Government spends millions of dollars annually to improve conditions in agriculture. Included in governmental assistance are programs of research into the physical and economic problems of the industry, regulatory and promotional activities, provision of farm credit, and direct financial assistance. The amount of the direct financial assistance varies from year to year as new policies are introduced or old ones modified, and also because the assistance paid under some programs varies with the weather and its effects on cropping and harvesting conditions, incidence of disease and pest damage, and marketing conditions.

It is difficult to apportion the costs of many agricultural assistance programs to specific years. Expenditures agreed to in one year may not be paid until the following year. For example, a drought assistance program may require payments to farmers in a fiscal year following the one in which the drought occurred. The Agricultural Stabilization Board may acquire a stock of a product which may not be sold until some later year. Any net loss to the Board is shown in the annual report of the Board as part of the net loss for the year in which the product was sold and not for the year in which the product was purchased for price support.

Direct financial assistance by the Federal Government to farmers and their organizations during the 1964-65 fiscal year has been estimated at $160 million (Table 1). This was a decline of over $60 million from the previous year, largely because of a smaller net loss in the operation of the Agricultural Stabilization Board.

In the text of this article, specific reference is made to direct financial assistance programs which were new or changed during the 1964-65 fiscal year. Policies and programs which remained in effect but unchanged from the previous year are not mentioned unless they bear a particular relationship to programs under discussion.

AGRICULTURAL PRODUCTS BOARD

During the 1964-65 fiscal year the Board purchased 50 million pounds of dry skimmed milk and 726.7 thousand dozen eggs. A total of 497.3 thousand dozen eggs were converted to dried whole egg. This dried whole egg plus 119.2 thousand pounds of dry skimmed milk were sold as part of Canada's contribution to the World Food Program.

AGRICULTURAL STABILIZATION BOARD

In 1964-65, the net operating loss of this Board was $55.9 million. Of the loss incurred on the previous year's operations, $2.5 million were brought forward, bringing the Board's total 1964-65 account to $58.4 million. A net expenditure of $57.1 million in 1964-65 left $1.3 million to be carried forward to 1965-66. Expenditures of the Agricultural Stabilization Board represented more than one-third of the total direct payments to agriculture by the Federal Government in 1964-65. The Board had losses in its operations on butter, skimmed milk, cheddar cheese, eggs, honey, pork, sour cherries and wool.

Dairy Products

Of the $55.9 million net operating loss of the Agricultural Stabilization Board in 1964-65, over 96 per cent was on dairy products, almost $47.0 million on butter alone. The price of butter was stabilized by purchase and by a fixed payment on milk and cream used for the manufacture of butter. On May 1, 1964 the Board raised its purchase price of butter from 52 cents to 53 cents a pound. In addition, fixed payments on milk and cream used for butter manufacture were made to assure producers returns equivalent to 64 cents a pound of butter.

An export subsidy of two cents a pound was paid on cheddar cheese exported to Great Britain during 1964-65; one cent a pound less than during the previous year. The support price base for cheese remained unchanged from 1963-64 at 32.5 cents a pound for Canada First Grade cheddar. To encourage production of high quality cheese a premium of 3.6 cents a pound was paid on Canada First Grade cheddar.

Sour Cherries

A price support program was implemented for the 1964 crop of sour cherries to alleviate a serious market situation caused by a heavy crop of sour cherries in the United States. The program provided for supporting sour cherry prices at 7.8 cents a pound to producers. This was accomplished by direct payments of 1.3 cents a pound of cherries to producers who marketed their crop through processing plants. Without this assistance much of the Canadian crop would have remained unharvested.

Eggs

The price of eggs was supported at 34 cents a dozen during the support year ended September 30, 1964.

The national average price during the period was 32 cents a dozen, thus necessitating a deficiency payment of two cents a dozen. This support program was continued at the same level for the subsequent 12-month period. Any deficiency payment necessary would be paid in the 1965-66 fiscal year.

Wool

The Board continued to support the price of wool at 60 cents a pound. A deficiency payment of 12.3 cents a pound was made on the 1964-65 wool clip compared with 14.3 cents a pound the previous year.

Honey

During the 1964-65 fiscal year a further payment of $575 was made on honey produced under the terms of the 1961-62 program.

Pork

Market prices remained above the support level so no deficiency payment was made on pork during 1964-65, but a loss was incurred on sales of pork stocks held by the Board from previous years.

AGRICULTURAL REHABILITATION AND DEVELOPMENT

A new ARDA agreement was signed between the Federal and Provincial governments in November 1964. This agreement, effective from April 1965 to April 1970, will govern the direction of a program which will cost $175 million. It provides for a maximum of $25 million to be available annually from the Federal Government and a further $50 million fund to be used for major programs over the five-year period.

TABLE 1—ASSISTANCE PAID TO AGRICULTURE BY THE FEDERAL GOVERNMENT, CANADA AND PROVINCES, FISCAL YEAR 1964-65

	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	thousand dollars										
AGRICULTURAL PRODUCTS BOARD											
Net operating loss	300	..	..	..	..	..	..	..	..	..	..
AGRICULTURAL STABILIZATION BOARD											
Net operating loss:											
dairy products	53,960	..	..	..	..	..	..	..	..	..	..
eggs	986	..	..	..	..	..	..	..	..	..	..
honey	1	..	..	..	..	..	..	..	..	..	..
pork	80	..	..	..	..	..	..	..	..	..	..
sour cherries	300	..	..	..	..	..	..	..	..	..	..
wool	553	..	..	..	..	..	..	..	..	..	..
AGRICULTURAL REHABILITATION AND DEVELOPMENT	9,143[a]	366	137	255	364	3,115	245	861	2,410	549	280
ANIMAL CONTAGIOUS DISEASES											
compensation for losses of animals	1,468	—	1	2	2	865	238	84	85	177	14
CHEESE AND CHEESE FACTORY IMPROVEMENT											
quality premiums	1,195	—	9	—	2	467	691	5	—	10	10
factory improvement	314	—	60	—	1	45	207	—	—	—	—
COLD STORAGE											
warehouse construction	77	—	—	—	30	—	—	—	—	27	20
CROP INSURANCE											
payments to participating provinces	466	—	12	—	—	—	—	337	117	—	—
MARITIME MARSHLAND REHABILITATION	201	—	(.....201.....)			—	—	—	—	—	—
PRAIRIE FARM ASSISTANCE											
payments to farmers	368	—	—	—	—	—	—	Cr793	813	326	22
PRAIRIE FARM REHABILITATION ADMINISTRATION AND RELATED PROGRAMS	23,990	—	—	—	—	—	—	(.....23,990.....)			—
PRAIRIE GRAIN ADVANCE PAYMENTS											
interest charges and repayment defaulted	543	—	—	—	—	—	—	(.....543.....)			—
PRAIRIE GRAIN PROVISIONAL PAYMENTS											
interest charges	1	—	—	—	—	—	—	(.....1.....)			—
TEMPORARY WHEAT RESERVES											
storage costs	34,023	—	—	—	—	—	—	(.....34,023.....)			—
APPROPRIATION ACTS											
grants to agricultural organizations	306	..	..	..	..	..	..	..	..	..	..
grants to fairs, exhibitions and museums	822	12	7	28	26	278	277	51	50	65	28
freight assistance on western feed grain	18,349	719	409	1,876	1,119	8,474	3,871	—	—	—	1,882
storage assistance on western feed grain	1,033	..	..	..	..	..	..	..	..	..	..
livestock purchase and distribution	9	..	..	..	..	..	..	..	..	..	..
premiums on purbred stock	55	—	0	0	1	40	10	0	3	—	—
hog quality premiums	8,443	0	162	119	60	1,692	3,375	649	615	1,736	36
lamb quality premiums	524	—	(.....24.....)			63	151	84	15	126	62
special drought assistance	503	—	—	—	—	170	254	19	56	—	3
agricultural lime assistance	1,584	11	66	102	100	1,205	42	—	—	—	57
barberry eradication	92	—	—	—	—	11	81	—	—	—	—
TOTAL FEDERAL ASSISTANCE	159,688										

Due to rounding of figures, provincial expenditures do not equal the Canada total in all instances.
..indicates no provincial breakdown available.
—indicates no expenditure.
0 indicates less than $500.
[a] Includes an expenditure of $560,706 on federal research, for which there is no provincial breakdown available.

Like the previous agreement this one includes provisions for programs of alternative land use, soil and water conservation and rural development, all aimed at improving income levels in rural areas and fostering resource development and use. However, the new agreement differs from the previous one in that it makes more specific provision for the kinds of projects that can be undertaken.

ANIMAL CONTAGIOUS DISEASES

Under the authority of the Animal Contagious Diseases Act, the Federal Government pays compensation for diseased animals slaughtered. The only change in 1964-65 was in the program for the control of scrapie in sheep. The old program required all infected animals, their progeny and any other sheep that had contacted infected animals, to be destroyed. The program was modified to allow retention of sheep not closely related to the infected animals.

CHEESE AND CHEESE FACTORY IMPROVEMENT

This Act provides an incentive, in addition to and separate from that offered by the Agricultural Stabilization Board, for the production of high quality cheese. Cheese of the cheddar type (including "washed curd" cheese) or blue-vein cheese of the Roquefort type scoring 93 points is eligible for a premium of one cent a pound; scoring 94 points or better two cents a pound.

Financial assistance available for the improvement of cheese factories remained unchanged during 1964-65 from that of the previous fiscal year.

FREIGHT ASSISTANCE ON WESTERN FEED GRAINS

The Federal Government provides assistance in paying freight charges on grain shipped from the Prairie Provinces to Eastern Canada and British Columbia to be used exclusively for livestock and poultry feed. It may be said that farmers in all provinces receive some assistance under this program. However, farmers in the Prairie Provinces receive their benefit through the availability of a wider market and this is not as readily expressed in monetary terms as is the assistance in paying freight charges received by farmers in the other provinces.

On September 14, 1964 an interim policy on feed grains became effective. This policy established a new zoning system for all of Eastern Canada. Under the former policy some farmers received assistance in excess of the actual freight charges incurred while others were required to pay as much as $6.20 a ton. Under the new policy the amount of freight charges to be paid by the farmer was not to exceed $2.00 a ton by the least-cost method of transporting grain. Western grain moved by truck within Eastern Canada became eligible for freight assistance. (The former policy authorized only freight assistance on inland movement of grain by rail.)

In addition a new basis for the payment of assistance was established. Separate and higher levels of assistance were to be paid on grain moved to certain Maritime destinations by rail during the period from December 1, 1964 to April 30, 1965. Separate and higher levels of assistance were to be paid on millfeeds and screenings transported by rail or truck to certain Maritime destinations.

SPECIAL DROUGHT ASSISTANCE

Saskatchewan

To alleviate conditions resulting from drought in the summer of 1964, the Governments of Saskatchewan and Canada agreed to share equally the costs of a program to assist in: the transportation costs of moving fodder to drought areas; the moving of haying machinery and of trucking cattle to feed.

Ontario

The Federal Government agreed to share on a 50-50 basis with the Government of Ontario the transportation costs of moving fodder into drought stricken areas of the Province.

BARBERRY ERADICATION

The Federal Government signed agreements with the Governments of Quebec and Ontario for programs designed to eradicate the common barberry plant. The Federal Government is to pay 50 per cent of the cost of the three-year one-million-dollar program.

SOURCES

The text and table are based on data compiled from the Canada Gazette Part II; annual reports of the Boards mentioned and of the Minister of Agriculture; federal Public Accounts; departmental files and the monthly report of the Markets Information Section, "Origin of Livestock Marketed".

New Dairy Policy—A new dairy policy, to take effect April 1, was announced. The policy is aimed at providing dairy farmers with an average return of $4.00 a hundredweight for their milk.

The policy will apply, in general, as follows:

For producers of manufacturing milk, the Agricultural Stabilization Board will take measures designed to permit processors to pay a price of $3.25 a hundredweight for 3.5 per cent manufacturing milk. In addition, the government will make direct payments to farmers of 85 cents a hundredweight on manufacturing milk. Of the 85-cent payment, 10 cents will be held as an export assistance levy.

For cream shippers, the Agricultural Stabilization Board's offer-to-purchase price for butter will be raised to 59 cents a pound. This should give the cream shipper the equivalent of 59 cents a pound for butter. To this will be added a direct federal payment of the equivalent, on a butterfat basis, of 85 cents a hundredweight of milk, less the 10-cent export assistance levy.

Fluid milk shippers will also be able to participate in the plan. The Agricultural Stabilization Board will make direct payments of 85 cents a hundredweight—minus the 10-cent export levy—on all milk in excess of 120 per cent of that on which these shippers obtain fluid prices.

Effective April 1, the existing subsidy of 10.9 cents a pound on eligible butterfat used for the production of creamery butter would be discontinued. (Mar. 24, 1966)

Egg Price Support—The support price for eggs from October 1, 1965 to September 30, 1966, has been set at 34 cents a dozen for the first 4,000 dozen of eligible grade eggs delivered by a producer, and 31 cents a dozen for the next 6,000 dozen. Grades eligible for support are Canada Grade A Extra Large, Canada Grade A Large and Canada Grade A Medium.

A producer, to be eligible for any deficiency payment, must be registered with the Agricultural Stabilization Board, must have sold the eggs through an approved grading station or be a registered producer-grader selling directly to retail outlets, and have sold at least 500 dozen eggs of the eligible grades during the 12-month support period. The maximum amount eligible for any deficiency payment is 10,000 dozen. (Mar. 30, 1966)

Ontario Milk Marketing Order—The Ontario Milk Marketing Board was authorized, under provisions of the federal Agricultural Products Marketing Act, to regulate the marketing of Ontario produced milk within the province and in interprovincial and export trade. Authority was also granted the Board, to fix, impose and collect levies or charges from persons engaged in the production or marketing of milk for purposes such as paying expenses and losses and the equalizing of returns among producers. The amount of the levies or charges is not to exceed the rate of five cents for each hundredweight of milk marketed. (Mar. 31, 1966)

Wool Deficiency Payment—A deficiency payment of 16.3 cents a pound was announced for all grades of wool except Rejects marketed in the 1965-66 support year which ended March 31. This was the amount that the average return to producers for Western Range Choice 58/60s, half-blood staple and Eastern Domestic 48/50s, quarter-blood staple, f.o.b. Toronto fell short of the support price of 60 cents. To be entitled to a deficiency payment a producer must have marketed a minimum of 20 pounds of eligible wool through a registered warehouse. (Mar. 31, 1966)

Sugar Beet Price Support—The support price for the 1966 sugar beet crop has been set at $14.35 per standard ton. This price is the same as that set for the 1965 crop and is about 105 per cent of the base price or recent 10-year average price. The price is applicable to sugar beets marketed in the 12-month period beginning September 1, 1966. (Apr. 7, 1966)

Canadian Cheese Market Enlarged—The United States quota for cheddar cheese from Canada was raised by 200,000 pounds for the period ending June 30, 1966. The U.S. Secretary of Agriculture has recommended to the President that the quota be raised in 1966-67 from the current 600,000 pounds to three million pounds. It is expected that the dollar value of cheese exports to the United States will increase from $280 thousand in 1965 to about $1.2 million in 1966. (Apr. 15, 1966)

Dry Whole Milk Purchase and Sale Order (1966-67)—Under provisions of the Agricultural Products Board Act, the Agricultural Products Board was authorized to purchase up to 30 million pounds of dry whole milk at a price not exceeding 42 cents a pound and to sell dry whole milk for export to approved destinations at a price not less than 32 cents a pound. This authorization is applicable during the period April 1, 1966 to March 31, 1967. (Apr. 25, 1966)

Butter Price Stabilization Order (1966)—The Agricultural Stabilization Board was authorized to offer-to-purchase Canada First Grade creamery butter 40-93 score or higher, delivered at Montreal or other locations as designated by the Board, at 59 cents a pound for the 12-month period April 1, 1966 to March 31, 1967. This support price is approximately 102 per cent of the base price of 57.9 cents a pound of butter. (Apr. 25, 1966)

Cheese Price Stabilization Order (1966)—The Agricultural Stabilization Board was authorized to offer-to-purchase Canada First Grade cheddar cheese at 38 cents a pound, basis delivery Montreal or Belleville, for the period April 1, 1966 to March 31, 1967. The support price is approximately 109 per cent of the base price of 34.74 cents a pound. (Apr. 25, 1966)

Dry Casein and Caseinates Purchase and Sale Order (1966-67)—The Agricultural Products Board was authorized to purchase up to 30 million pounds of dry casein, including caseinates, at a price not exceeding 45 cents a pound and to sell dry casein and caseinates for shipment to approved destinations at a price of not less than 25 cents a pound. This authorization is applicable during the period April 1, 1966 to March 31, 1967. (May 13, 1966)

Dry Skim Milk Purchase and Sale Order (1966-67)—The Agricultural Products Board received authorization to purchase up to 100 million pounds of spray process dry skim milk at a price not exceeding 18 cents a pound, during the period April 1, 1966 to March 31, 1967. The Board is to ensure storage and transportation of the dry skim milk held by it and to sell any of this product which was either held by the Board or purchased for shipment to approved destinations at a price of not less than 12 cents a pound. (Apr. 25, 1966)

Eastern Townships Region Wood Producers' Syndicate Marketing Order—This syndicate was authorized to regulate the marketing, in interprovincial and export trade, of leafy and resinous woods produced in the Eastern Townships region of the Province of Quebec. (Apr. 25, 1966)

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The thirty-second annual summary of co-operative activities in Canada.

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The original paper entitled "Trends in Canada's Foreign Agricultural Trade Pattern" was presented by F. Shefrin at the Canadian Agricultural Economics Society Workshop meeting in Banff, Alberta, June 16-18, 1965. This publication contains the modified paper and presents the statistical data in greater detail than the original.

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The sixteenth annual summary of world grain trade prepared by the Secretariat of the Food and Agriculture Organization of the United Nations.

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An outline of the world meat economy at the beginning of the current decade and an analysis of some of the major factors influencing consumption, production and trade in meat.

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A condensation of a report on the procedures followed and some of the important findings of a soil test appraisal carried out in the Province of Alberta in 1964. The project was financed jointly by the Alberta Department of Agriculture and the federal ARDA administration, and directed by the Department of Soil Science, University of Alberta, Edmonton.

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AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1965-66

Commodity, grade and market	1965			1966			
	Average	Mar.	Apr.	Jan.	Feb.	Mar.	Apr.
	dollars per cwt.						
CATTLE (weighted average prices at public stockyards)							
Good slaughter steers							
Toronto	24.00	22.50	22.50	26.27	27.07	27.12	25.99
Winnipeg	23.25	22.11	22.74	25.52	26.10	25.99	25.65
Calgary	22.65	21.24	21.82	25.32	25.52	25.22	25.10
Good feeder steers							
Toronto	22.70	21.90	22.00	26.13	27.56	28.11	28.00
Winnipeg	22.05	20.86	21.41	24.11	25.99	26.54	26.20
Calgary	21.95	20.81	21.33	23.83	25.48	26.10	26.00
Good and choice veal calves							
Toronto	30.50	31.93	31.97	36.19	32.25	36.55	34.20
Winnipeg	29.80	30.25	29.60	36.45	35.55	34.61	33.42
Calgary	23.10	—	24.30	26.15	—	29.70	—
HOGS (weighted average prices at public stockyards)							
Grade A dressed							
Toronto	33.40	27.80	27.94	42.73	43.19	36.12	32.90
Winnipeg	31.65	25.70	25.73	40.76	42.28	35.05	31.64
Calgary	28.55	23.95	23.61	39.07	39.94	33.42	29.68
LAMBS							
Good							
Toronto	26.70	27.43	29.02	30.90	30.99	31.67	30.35
Winnipeg	21.30	22.91	24.00	24.90	25.96	26.00	27.49
Calgary	20.75	22.26	22.96	22.47	25.52	27.22	26.43
FLUID MILK (f.o.b. factory)							
Halifax	5.71	5.71	5.71	5.71	5.71	5.71	5.71
Montreal	5.10	5.10	5.10	5.10	5.35	5.35	5.35
Toronto	5.26	5.26	5.26	5.29	5.29	5.29	5.29
Winnipeg	5.20	5.20	5.20	5.20	5.20	5.20	5.20
Vancouver	6.19	6.08	6.08	6.46	6.46	6.47	6.53
MANUFACTURING MILK (average farm value)							
Nova Scotia	2.74	2.75	2.77	2.63	2.60	—	—
New Brunswick	3.01	3.02	3.01	3.02	3.02	—	—
Quebec	3.05	3.10	2.96	3.26	3.28	—	—
Ontario	2.99	3.06	2.98	3.23	3.22	—	—
British Columbia	3.03	2.99	3.00	3.08	3.12	—	—
	cents per lb.						
BUTTERFAT (for butter, average farm value)							
Prince Edward Island	69.4	70.0	70.0	73.0	73.0	—	—
Quebec	84.7	88.0	83.3	89.8	90.8	—	—
Ontario	73.8	73.9	73.9	74.8	75.0	—	—
Saskatchewan	65.3	65.7	65.7	67.0	67.7	—	—
British Columbia	68.9	67.5	67.5	70.8	70.8	—	—
	cents per doz.						
EGGS (average paying prices at registered grading stations, Grade A Large)							
Halifax	36.2	29.6	33.0	33.5	39.0	42.2	46.5
St. Anselme	35.3	28.8	31.2	32.1	36.9	40.9	49.0
London	35.1	26.3	28.9	35.8	37.4	40.5	46.2
Winnipeg	30.6	21.7	23.0	30.0	32.5	36.9	38.8
Vancouver	36.4	32.8	34.5	37.8	40.0	41.2	39.2
	cents per lb. live						
BROILERS							
Toronto	18.8	18.7	17.8	20.4	21.1	21.2	21.1
Edmonton	20.5	20.4	21.0	21.0	21.6	22.2	22.5
TURKEYS (average prices paid to producers, No. 1 grade, 12-20 lbs.)							
London	25.4	24.0	24.0	28.8	27.1	24.6	24.5
Edmonton	24.3	23.8	23.0	26.5	26.5	26.5	26.5

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1965-66
(Continued)

Commodity, grade and market	1965			1966			
	Average	Mar.	Apr.	Jan.	Feb.	Mar.	Apr.
				dollars per bu.			
EASTERN SMALL GRAINS							
OATS (Ont. No. 2 White, f.o.b. shipping points)	0.76	0.78	0.78	0.78	0.78	0.78	0.78
BARLEY (Ont., good malting, f.o.b. shipping points)	1.43	1.44	1.43	1.45	1.45	1.45	1.45
CORN (Ont. No. 2 Yellow, f.o.b. Chatham, 15% moisture, in carlots)	1.35	1.39	1.41	1.40	1.42	1.42	1.42
SOYBEANS (Ont. No. 2, f.o.b. Chatham)	3.10	3.22	3.20	2.99	3.03	2.98	3.10
				dollars per cwt.			
POTATOES (Can. No. 1 Table, average prices to growers)							
Prince Edward Island	3.30	3.00	3.97	2.07	2.32	3.42	3.87
New Brunswick	3.05	2.88	3.80	1.87	1.98	2.32	2.43
Southwestern Ontario	3.17	3.52	4.10	2.62	2.63	2.73	3.40

Commodity, grade and market	1965		1966			
	Mar.	Apr.	Jan.	Feb.	Mar.	Apr.
			dollars per bu.			
WESTERN SMALL GRAINS (basis in store Fort William/Port Arthur, less freight and elevator handling charges)						
Red Spring Wheat, No. 2 Nor.						
Winnipeg	1.76 3/4	1.76 5/8	1.82 1/2	1.85 3/8	1.86 3/8	1.86 3/4
Regina	1.73 1/2	1.73 3/8	1.79	1.81 7/8	1.82 7/8	1.83 1/4
Edmonton	1.73 1/4	1.73 1/8	1.79	1.81 3/8	1.82 3/8	1.83 1/4
Durum Wheat, No. 1 C.W.A.						
Winnipeg	1.79 3/4	1.79 5/8	1.85 1/2	1.88 3/8	1.89 3/8	1.90 1/8
Regina	1.76 1/2	1.76 1/8	1.82	1.84 7/8	1.85 5/8	1.86 5/8
Edmonton	1.76 1/4	1.76 1/8	1.82	1.84 3/8	1.85 3/8	1.86 5/8
Feed Wheat						
Winnipeg	1.54 3/4	1.54 5/8	1.58 1/2	1.61 3/8	1.62 1/2	1.63 3/4
Regina	1.51 1/2	1.51 3/8	1.55	1.57 7/8	1.59	1.60 1/4
Edmonton	1.51 1/4	1.51 1/8	1.55	1.57 3/8	1.59	1.60 1/4
Oats, No. 1 feed						
Winnipeg	0.68 1/2	0.69 3/4	0.75 3/4	0.78 1/8	0.79 5/8	0.78 3/4
Regina	0.66 1/2	0.67 3/4	0.73 3/4	0.76 1/8	0.77 5/8	0.76 3/8
Edmonton	0.64 1/2	0.65 3/4	0.71 3/4	0.74 1/8	0.75 5/8	0.74 3/8
Barley, No. 1 feed						
Winnipeg	1.11 1/4	1.10 7/8	1.19 3/8	1.20 7/8	1.17 5/8	1.15 1/2
Regina	1.08 3/8	1.06 3/4	1.16 1/2	1.18	1.14 3/4	1.12 5/8
Edmonton	1.05 1/2	1.05 1/8	1.13 5/8	1.15 1/8	1.11 7/8	1.09 3/4
Rye, No. 2 C.W.						
Winnipeg	1.10 1/4	1.09 1/2	1.25 1/2	1.26 1/2	1.18 7/8	1.18 1/2
Regina	1.06 3/4	1.06	1.22	1.22 3/8	1.15 3/8	1.15
Edmonton	1.03 3/8	1.02 5/8	1.18 5/8	1.19 1/4	1.12	1.11 5/8
Flaxseed, No. 1 C.W.						
Winnipeg	3.12	3.08 7/8	2.86 1/8	2.90 1/2	2.85	2.83 1/2
Regina	3.08 5/8	3.05 1/2	2.82 3/4	2.87 1/8	2.81 5/8	2.80 1/8
Edmonton	3.05 5/8	3.02 1/4	2.79 1/2	2.83 3/8	2.78 3/8	2.76 7/8

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CANADIAN FARM ECONOMICS

COMMODITY REVIEW

GRAINS AND FEEDS

The month of June or even in July is not a good time to talk either glowingly or gloomily about the grain crop prospects. Nevertheless it must be said that the 1966 grain crop appears to be off to a very good start and, barring rust, frost and the other agents that have been known to decimate what appeared in July to be a bumper crop, a wheat harvest edging up towards the 750 million bushels mark can be expected this fall.

In March, reports to the Dominion Bureau of Statistics indicated that prairie farmers intended to plant 29.2 million acres to wheat this spring. When the final count is made it may well be shown that an all-time record high planting of 30 million acres or more went into the ground, in spite of a late start in some areas. There have been reports of farmers seeding a large percentage of their stubble land to wheat "in an almost all or nothing attitude". Fertilizer use has leaped upwards, increasing the probability of producing the huge crop needed to meet buying demand.

Moisture conditions nearly all over the prairies have been very good. In fact, wet fields delayed seeding in some areas and even well into July Manitoba farmers were complaining of too much water in their fields. Germination has been spotty in some areas and stooling reported to be not as good as last year. In Alberta and most of Saskatchewan however, the grain got away to a wonderful start. Showery weather and relatively strong winds have interfered with weed spraying operations. Wild oats in particular are reported to be bothersome. Taken all in all, though, the signs now point to a bumper grain crop this year.

The wheat carry-over at the end of July is expected to total 450 million bushels. Added to an expected crop of 750 million this would give a total supply in 1966-67 of 1,200 million bushels, or about the same as in 1965-66.

From the 1965 crop there is still a considerable amount of tough and damp grain on hand. Driers at the Lakehead have been working at full capacity since November and are likely to continue that pace for some time.

The really big news recently was the signing of a new agreement with the U.S.S.R. calling for delivery of a minimum of 9 million tons of wheat and flour over the next three crop years. This translates to 336 million bushels of wheat, including flour shipments of 45 million bushels wheat-equivalent. Inferences drawn from this action on the part of the U.S.S.R., and from official and semi-official comments, are to the effect that this market now appears to be a reliable one for an undetermined number of years into the future and that perhaps Canadian officialdom will have to reassess the situation and even to conclude that exports to the U.S.S.R. will not be on an unpredictable in and out basis.

Export prospects for Canadian wheat over the next few years look very bright indeed. The current crop year should come close to, or even exceed, the record high of 594.5 million bushels set in 1963-64. If the shipping opportunities lost during a longshoremen's strike at major St. Lawrence ports in May and June can be offset before the end of July, it is probable that the 600 million bushel mark can be attained. In each of the next three crop years export sales can hardly fail to exceed half a billion bushels. Exports for the 1966-67 season will reach 525 million bushels at a minimum. Such volumes will call for a continuation of the huge crops that have become normal in the 1960's—save for the disastrous 1961 crop. The emphasis has now shifted from marketing and surplus problems to production and scarcity. Wheat crops of 650 million bushels will be needed every year in order to avoid depletion of stocks. Significant changes in techniques appear to be called for, with very serious thinking to be done by each producer when he contemplates the summerfallow and fertilizer aspects of his operation.

With somewhat disappointing crop prospects in the U.S.A., low stocks and reduced seeding in Australia due to drought, average prospects in Argentina, and a smaller acreage in France because of weather difficulties, total supplies in the hands of the major exporters at the opening of the 1966-67 crop year are unlikely to be excessive. Accordingly world prices seem likely to remain firm and, for some countries, wheat prices may rise further. However,

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at the end of June the Canadian Wheat Board price for No. 1 Northern in store Vancouver, at $2.15½ per bushel, is close to the IWA maximum (currently $2.17¾). A narrowing of the spreads can be expected under such conditions. The No. 1 to No. 3 Northern spread has been 12¢ for the past several months.

In the case of feed grains, world demand is also strong and although the production in Western Europe, the major import market, may increase, the continual expansion of world exports of feed grains, especially U.S. corn and sorghums, is likely to continue into 1966-67. Exports of Canadian oats and barley which increased in 1965-66 over the previous year may not continue high. With current crop prospects, supplies in Canada will be adequate but prices could remain steady at least until September. World prices have tended to increase slightly over the last few years but much now depends on supplies available at harvest.

Feed Grain Situation—During May and June the most significant feature in the feed grain situation was the impact of the longshoremen's strike in Montreal, Trois Rivières and Quebec. Although feed grain supplies across Canada are adequate, provisions in Quebec and the Maritimes had become difficult by early June and prices were rising. Under an emergency feed supply policy paid for by the Federal Government greater use was made of direct truck and rail movement from Prescott, Bay Ports and the Lakehead terminals, thus avoiding the blockages at the St. Lawrence elevators. This action returned stability to the market in terms of normal supplies and costs.

While spring work in the fields was at a peak in the West, grain marketings were light. However, they picked up towards the end of June and once again June and July will be the year's peak delivery months. Visible supplies appear to be quite adequate to meet demands.

Prices—The continuing strength of world demand for wheat, which was given further impetus by the recent 3-year agreement between Canada and the U.S.S.R., plus the declining stock position has led to a steady increase in the Canadian Wheat Board asking prices. Partly in sympathy with wheat, but also due to a stronger export demand, prices for oats and barley have also risen. These movements are part of the upward trend in grain prices that has continued throughout the season, as shown in the following table of mid-month prices basis in store at the Lakehead for the 1965-66 crop year.

	No. 1 Northern Wheat	No. 2 C.W. Oats	No. 3 C.W. Six-row Barley	No. 2 C.W. Rye
	dollars per bushel			
August	1.93¼	.83⅜	1.27¼	1.23
September	1.93¼	.85¾	1.31½	1.23
October	1.95	.86½	1.31	1.23⅞
November	1.95½	.85¼	1.30⅜	1.22⅝
December	1.95¾	.86¼	1.31¾	1.26⅝
January	1.99	.86	1.31½	1.40¼
February	2.01⅞	.89¼	1.33¾	1.38½
March	2.02½	.92¼	1.33⅜	1.29¼
April	2.02⅝	.92⅞	1.33½	1.32½
May	2.03⅜	.89¾	1.27¼	1.24¼
June	2.05¼	.92⅜	1.29	1.28⅜

At $2.09⅝ per bushel, the price of No. 1 Northern wheat at the Lakehead at the end of June is the highest asking price ever quoted by the Wheat Board for wheat offered under the International Wheat Agreement, exceeding the previous high quoted in March 1964. The previous high plateau, during the first half of 1964, was largely the result of strong immediate demand by the U.S.S.R. and, to a lesser extent, Japan and Western Europe. On the present occasion, however, there is not only a strong current export demand (highlighted by Canadian agreements with the U.S.S.R. and China) but aid commitments especially to India are high. Concurrently, on the supply side the world stock position is very different from two years ago. Canadian stocks at July 31 are anticipated to be lower than for many years, and the carry-over in the U.S.A. will be lower than in any year since 1952.

G. A. Hiscocks and J. W. Channon

TRENDS IN PORK PRODUCTION

Variability of pork production has marked the hog industry for many years. This has contributed to wide price swings and instability to the pork industry.

The hog production cycle is usually considered to be about four years in length, with two years of high production and low prices and two years of lower production and higher prices. This is illustrated by slaughter and price records since 1953 (Table 1). These data bear out the 2 + 2 pattern of the hog cycle, although fluctuations in both slaughter levels and prices have tended to moderate.

The pork industry has experienced three hog price cycles during the period 1953 to 1964. The price of Grade A hog carcasses on the Toronto market for the last complete hog cycle averaged $28.25 per hundredweight and ranged from a yearly high of $29.60 in 1962 to a low of $27.30 in 1964, a variation of $2.30 per hundredweight. This compares with a variation of $6.30 for the preceding cycle 1957-60, and $5.70 for the 1953-56 cycle.

Variable hog prices are the result of many factors. Part of the fluctuation in hog prices is seasonal. Much of this is the result of seasonal farrowing patterns. Hog farrowings are bunched at two times during the year, in the spring and fall. This gives rise to a con-

TABLE 1—SIGNIFICANT CHANGES IN THE CYCLICAL SUPPLY AND PRICE OF HOGS IN CANADA, 1953-1965

Year	Commercial Slaughter				Grade A Price, Toronto			
	Annual total	2-year average	Cyclical	Change	Annual average	2-year average	Cyclical	Change
	thousand head			per cent	dollars per cwt.			per cent
1953 L	6,198.2	6,170.9			30.80	31.28		
1954 L	6,143.7		+724.3	+11.7	31.75		−4.50	−14.4
1955 H	6,932.2	6,895.2			26.05	26.78		
1956 H	6,858.2		−14.4	− 0.2	27.50		+3.31	+12.4
1957 L	6,295.4	6,880.8			31.05	30.09		
1958 L	7,466.2		+1,852.3	+26.9	29.13		−5.31	−17.6
1959 H	9,661.8	8,733.1			24.80	24.78		
1960 H	7,804.4		−1,148.0	−13.2	24.75		+4.17	+16.8
1961 L	7,522.1	7,585.1			28.30	28.95		
1962 L	7,648.2		+365.9	+ 4.8	29.60		−1.40	− 4.8
1963 H	7,601.0	7,951.0			27.80	27.55		
1964 H	8,301.0				27.30			
1965	8,111.7				33.40			

Sources:
(1) Canada, Dominion Bureau of Statistics, *Estimate of Production and Consumption of Meats*, Catalogue No. 32-220;
(2) Canada, Department of Agriculture, *Livestock Market Review.*

centration of slaughter in the fall, with sometimes a secondary peak in early spring. Prices usually are highest in the summer and lowest in late fall.

Aside from seasonal fluctuations, the periodicity of hog prices has tended to follow a two-year pattern. Prices advanced to peaks in 1953-54, 1957-58 and 1961-62. They declined to lows in 1955-56, 1959-60 and 1963-64. Since 1964, hog prices have generally advanced and for 1965 Grade A carcasses at Toronto reached an all time yearly high of $33.40 per hundredweight.

In the light of past performance of hog cycles, it appears that the following pattern may emerge for 1966:—

(1) Commercial hog slaughter and prices for 1966 will closely follow the 1965 situation when supplies were moderately lower and prices relatively higher.
(2) Cyclical fluctuations in both production and price will likely follow those of the last cycle.
(3) Seasonal price changes will still be important market factors.

A. M. Boswell

DAIRY PRODUCTION 1966

Milk production in Canada during the first four months of 1966 was down 90 million pounds or about two per cent below that of the first four months of 1965. This represents the cumulative effect of production in each of these months which was lower than in the corresponding month of 1965, which were in turn below those of 1964, and is about in line with the 1963 production level.

Creamery butter production to the end of May 1966 totalled 36.6 million pounds, up about five per cent from the corresponding figure for 1965 but below the five-month production of either 1964 or 1963. Domestic disappearance of creamery butter was above 1965 levels in January, February and March, dropped back in April but recovered again in May so that for the first five months total domestic disappearance was again above that of last year. Stocks of creamery butter, including the butter equivalent of butter oil, amounted to 41.3 million pounds at June 1, 1966, compared with 62.5 million pounds a year earlier and 162 million pounds in 1964 or 204 million pounds in 1963. Normally there is a build up of butter stocks during the summer months but if the reduced rate of total milk production continues and the demand for other dairy products holds up it appears certain that stocks will be down again next winter to about a one-month's supply or less. It is generally considered that supplies for a one-month consumption are about the minimum required to maintain normal movement of butter into consumption. If butter consumption remains at present levels and there is not a substantial increase in production a butter shortage, from domestic sources, will probably require the importation of supplementary butter supplies. There would be a tendency toward strengthening in the market price of butter in Canada after the principal production season was over and increased inclination by consumers to turn to butter substitutes

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if supplementary supplies were not imported. Margarine consumption, to the end of May 1966, at 71.3 million pounds was already about four per cent above the 1965 level and was nearly up to the 1964 consumption rate.

Cheddar cheese production has been running above year-earlier levels during the first five months of 1966 with some build up of stocks. Exports were an estimated 40 per cent higher than the 7.8 million pounds exported in the same period of 1965, and domestic disappearance since January has been about equal to levels of last year. If this trend continues, cheddar cheese production could continue the expansion which has been in progress every year since 1959.

Fluid milk and cream sales have maintained a moderate annual expansion in recent years about in step with population growth. Data for the first four months of 1966 suggest that this trend is still continuing.

The 1966-67 dairy policy administered by the Agricultural Stabilization Board is aimed at raising producer incomes, stabilizing the dairy industry and protecting consumers from run-away prices.

The program is designed to provide dairy farmers with an average return of $4.00 per hundredweight of milk delivered to the factory. This is accomplished through a combination of direct government buying of butter along with offer-to-purchase, coupled with export assistance on products such as skim milk powder and cheese, to result in average prices of $3.25 for milk. In addition the government will make direct payments of 85 cents a hundredweight on manufacturing milk to farmers. Ten cents of the 85-cent payment will be held in a fund to assist exports of any surplus products. Fluid milk producers will be able to participate in the plan by receiving the direct 75-cent payment on milk produced in excess of 120 per cent of that on which they obtain the higher fluid milk prices. Cream shippers will receive the subsidy on the basis of butterfat equivalent. This program will support the market to allow processors to pay the equivalent of $3.25 per hundredweight to the farmer. Since the Federal Government does not have authority to set prices between processors and producers, the farmer will still have to bargain for the best negotiable price from processors.

E. S. Eaton

HATCHING EGG PRODUCTION FOR LAYER FLOCKS

Hatching egg production in Canada has become a highly specialized segment of the poultry industry. In order to appreciate the extent of specialization, it is helpful to classify the owners of flocks for hatching egg production according to the purpose for which the eggs are produced.

The first distinction between farms producing hatching eggs is whether or not the eggs are for commercial or for breeding purposes. The primary breeding flocks are usually owned by a large, highly specialized breeder organization. The breeder organization includes several franchised hatcheries, and they together supply both the female and male parents to the commercial hatchery supply flock operators.

The second distinction is between commercial hatching egg producers. Most hatchery supply flock operators specialize in either laying stock, broiler stock or in turkeys. They obtain their breeder stock through their hatchery and operate under the supervision of the hatchery, or the breeder organization with which the hatchery is franchised.

Primary Breeders—Most of the larger breeder organizations operating in Canada are United States' companies. They have a large number of franchised hatcheries and supply a major portion of the breeder stock used in Canada. The U.S. breeder organizations successfully pioneered the development of hybridization programs, and provided stiff competition for Canadian breeders, especially during the middle 1950's. As a result Canadian breeders were forced to adopt hybridization programs and the large scale organizational methods of their U.S. counterparts. At the present time, Canadian breeders are winning back the Canadian market and are making favourable progress as well in franchising hatcheries in the United States and overseas.

The breeder organizations employ geneticists, pathologists and other highly trained specialists to develop breeds and strains of poultry that are outstanding with respect to traits required in commercial production. For example, the Leghorn strains are the main source of commercial layers that have become so highly efficient in market egg production. Some breeder organizations specialize in egg production stock while others are mainly concerned with broiler chicken or with turkeys. The breeder organizations have franchised hatcheries across Canada with whom they work to multiply the commercial stock used by market egg and poultry meat producers. They either sell the franchise outright to the hatcheryman or they take a royalty on hatchery sales of their stock, which they advertise extensively.

Commercial Production—Commercial hatching egg production takes place on farms in Canada under the general direction of the dominant member of the industry team. In the case of egg laying stock, the breeder organizations with their franchised hatcheries, have become the influential members of the specialized team in the egg production segment of the industry. The hatchery supply flock operators

keep the breeding lines and follow the management principles as specified by the breeder organization. In the case of poultry meat production however, the processors are the more dominant members of the industry. The processors are more interested in meat type conformation than in breeder flock production, hatchability, rate of gain or feed conversion, which are the traits of most interest to the broiler hatching egg operator, the hatcheryman or the broiler producer. All of course have a common interest in healthy and disease resistant strains.

To assist the industry in evaluating the economic traits of the commercial stock, four poultry test stations have been set up by governments in Canada. Three are operated by provincial governments in each of New Brunswick, Alberta and British Columbia, while the fourth is operated by the Canada Department of Agriculture in Ottawa. Several similar test stations also operate in the United States. The tests are designed to compare the capacity of the birds to perform under standardized conditions. The reports of the test results contain an impartial evaluation of the commercial stock, and are important to all segments of the industry.

The value of chicken hatching egg production in Canada in 1965 was estimated by the Dominion Bureau of Statistics at $12.4 million. Egg type hatching egg production was worth about $2.6 million while broiler chicken hatching egg output totaled $9.8 million. Turkey hatching egg production while not officially estimated would be worth about $7 million in 1965.

Layer Type Production—The production of commercial hatching eggs for layer replacement stock has declined moderately in the last ten years because laying flock productivity has increased much more rapidly than has the demand for market eggs. In 1965, the total hatch for egg production was 47.3 million chicks compared with 53.5 million in 1961 and 68.9 million in 1956. The reduction has not been uniform across the country, being less in Manitoba and B.C., moderate in Alberta, Ontario, Quebec and the Maritimes, but showing a sharp reduction in Saskatchewan.

About one-half of the egg type chicks hatched in registered hatcheries in 1965 were in Ontario and Quebec, with Ontario accounting for 17.4 million and Quebec about 6.8 million chicks. The Prairie Provinces accounted for about one-third of the hatchery output of egg-type chicks in 1965. British Columbia and the Maritime Provinces accounted for about one-sixth together, or about one-twelfth each.

The demand for hatching eggs for setting is about one-quarter larger than the hatch. It was about 60 million eggs in 1965. This is the equivalent of about 5 million dozen or 167,000 cases of 30 dozens. Since the setting of hatching eggs occurs predominantly during the January to June period, about 71 per cent of hatching egg production takes place in the first six months of each year. The peak period in hatchery production occurs in the spring quarter of March, April and May when about one-half the hatch took place in 1965. Production of hatching eggs for this period averaged about 6,500 cases per week and reached a peak of about 8,500 cases per week in March for the peak hatch in April.

The hatch of egg-type chicks during the spring quarter of 1965 was the smallest for many years. Three factors account for this. Firstly, as has been mentioned, fewer of the high producing strains of layers are required to satisfy the egg market requirements; secondly, there has been a trend toward larger relative fall and winter hatches and a smaller spring hatch; thirdly, the demand for replacement pullet chicks in 1965 was smaller than in 1964 because of the cyclically low egg prices prevailing during that period.

The reduction that has taken place in the number of birds in layer type hatchery supply flocks has greatly exceeded the trend in total hatching egg production. This is also due to increasing productivity in the hatching flocks. Rates of lay have increased, and hatchery production has become less seasonal than formerly, requiring fewer birds to meet the peak, spring demand. The reports of the Hatchery Supply Flock Survey for Egg Production Matings are available from 1958 to 1966. These are published in the Hatchery Outlook, by the Poultry Division, Canada Department of Agriculture.

In 1966, 885,000 birds were banded and in production across Canada compared with 1.2 million in 1962 and 1.8 million in 1958. The downward trends in the provincial totals are generally similar to the trends in provincial hatching egg production. The reduction has been most sharp in Saskatchewan, Manitoba and Alberta, with the numbers down to 335,000 birds compared with 837,000 in 1958. In Ontario and the Atlantic Provinces, numbers at 304,000 and 49,000 respectively are about half as large as was the case in 1958. In Quebec and B.C. the total flock size in 1966 was 119,000 and 77,000 birds respectively. In these provinces the reduction in the hatchery supply flocks has been the smallest in Canada.

In 1966, about 472,000 birds or about 53 per cent of the numbers in layer type hatchery supply flocks were in Eastern Canada compared with 47 per cent in Eastern Canada in 1958. The proportion in the Prairies has dropped from about 45 per cent in 1958 to 38 per cent in 1966, and accounts for the relative increase in the proportions in Eastern Canada and in British Columbia.

There has also been a marked change over the past nine years in the breed composition of the layer type hatchery supply flocks. In 1966, White Leghorns, at

TABLE 1—NUMBER OF EGG TYPE BREEDERS IN HATCHERY SUPPLY FLOCKS IN CANADA, BY PROVINCES, 1958 TO 1966

	B.C.	Alta.	Sask.	Man.	Ont.	Que.	Atl. Pr.	Canada
				thousand head				
1958	136.1	324.0	230.7	282.6	599.1	145.2	109.5	1,827.2
1959	128.5	296.7	231.1	264.2	553.6	105.0	114.7	1,693.8
1960	97.5	270.0	183.3	242.5	552.8	138.1	89.0	1,573.2
1961	93.3	231.3	150.1	204.6	504.3	109.8	85.7	1,379.1
1962	95.3	209.5	129.6	165.7	426.4	88.2	88.1	1,202.8
1963	79.6	192.8	102.5	163.0	396.9	102.3	93.2	1,130.3
1964	70.1	194.2	94.2	160.8	383.0	92.6	68.1	1.063.0
1965	67.8	172.8	87.0	159.7	355.8	110.6	62.0	1,015.7
1966	77.2	149.2	63.7	122.7	304.2	119.0	49.2	885.2

Source: Hatchery Supply Flock Survey, Egg Production Matings, *Hatchery Outlook*, Canada Department of Agriculture.

571,000 birds represented 64.5 per cent of all the birds banded compared with only 25 per cent in 1958. Most of the decline has occurred in the numbers of heavy breeds which dropped from 1,300,000 birds in 1958 to about 220,000 in 1966. There has also been a large reduction in the amount of two and three-way breed crossing for the production of hatching eggs.

White Leghorns have become predominant in B.C. and Quebec but are less popular within the Prairie Provinces, particularly in Saskatchewan, where the demand for unsexed heavy type chicks is still strong among the farm flock operators of that province. White Leghorns comprise about two-thirds of the breeding in layer type hatching flocks in Ontario.

The heavy breeds of layers that are still popular among the farm flock operators are the Barred and White Plymouth Rocks and the Light Sussex. Two-way crossing between heavy breeds is much more popular than matings within the breed. New Hampshires are still popular in Alberta and Rhode Island Reds in Ontario. However, the heavy breeds are disappearing rapidly due to the reduction in farm flock egg production and the relative increase of specialized laying operations.

The 1965 records of all egg production type chicks hatched showed that 75 per cent were types that would produce a white-shelled egg. By provinces, the percentage of white egg laying stock in 1965 was B.C. 96, Alberta 62, Saskatchewan 32, Manitoba 66, Ontario 84, Quebec 83 and the Atlantic Provinces 75 per cent. The increased production of white-shelled eggs has occurred along with the increasing dominance of White Leghorns in the hatchery supply flocks.

In 1966, about 400,000, or 70 per cent of the White Leghorns in hatchery supply flocks were placed under franchise by one of the U.S. breeder organizations. The percentage was highest in B.C., Quebec, Ontario, the Atlantic Provinces and Manitoba in that order of importance. Franchised White Leghorns were about equal with Canada Leghorns in Alberta, and neither Leghorn was very significant in Saskatchewan.

The reduction that has taken place in the numbers of poultrymen operating layer type supply flocks has been much larger than the drop in the numbers of birds in hatchery supply flocks. This has been due to increasing specialization among layer type hatching egg producers. Formerly, a larger proportion of the hatching eggs was produced by market egg flocks

TABLE 2—HATCHING EGG PRODUCTION, TRADE AND PLACEMENTS FROM EGG TYPE SUPPLY FLOCKS TO REGISTERED HATCHERIES IN CANADA, BY PROVINCE, 1965

	Egg Placements	Exports		Imports			Net Trade	Hatching Egg Production
					Foreign			
		Domestic	Foreign	Domestic	Commercial	Breeding		
				thousands				
British Columbia	6,130	897	320	268	38	—	911	7,041
Alberta	7,531	202	—	1,366	5	3	−1,172	6,359
Saskatchewan	4,326	166	—	561	—	1	−396	3,930
Manitoba	8,274	895	4	243	103	—	553	8,827
Ontario	21,395	1,747	682	67	694	242	1,426	22,821
Quebec	7,697	47	—	523	167	27	−670	7,027
Atlantic Provinces	4,440	432	—	1,358	206	53	−1,185	3,255
Canada	59,793	4,386	1,006	4,386	1,213	326	−533	59,260

during the late winter and spring months. This practice is becoming less common because of the growing demand for replacement stock during the fall and winter months as well. The gradual transition to year around hatchery production of egg type chicks has enabled increasing specialization among the hatchery supply flock operators. Flock size has also increased on hatching egg farms as well as in market egg operations.

Domestic and Foreign Trade—The interprovincial movement within Canada in 1965 of hatching eggs for egg production totaled 4.4 million or about 7 per cent of total settings in registered hatcheries. Generally speaking, the bulk of the trade is between neighbouring provinces. However, eggs from Ontario were shipped to hatcheries in every other province from Saskatchewan eastward and were particularly large to Nova Scotia and Newfoundland. Ontario shipments comprised about 40 per cent of the Canadian total in 1965.

Manitoba hatching eggs are sold extensively to hatcheries in Alberta, Saskatchewan, B.C., and Ontario in that order, and account for about 20 per cent of the total interprovincial movement. British Columbia flocks are an important source of stock for Alberta hatcheries and that movement also accounted for about 20 per cent of the total trade in 1965. New Brunswick is a net exporter on the basis of their shipments to Quebec and Nova Scotia. The deficit provinces are Alberta, Saskatchewan, Quebec, Nova Scotia and Newfoundland.

Interprovincial trade in egg production chicks in 1965 totaled 1.6 million and except for sales from Ontario, the trade is mainly between neighbouring provinces. Ontario hatcheries shipped 649,000 chicks in 1965, mainly to Quebec and Saskatchewan. Similarly hatcheries in Manitoba and Alberta filled large orders for chicks with egg producers in Saskatchewan.

Canadian imports of hatching eggs and live poultry for egg production are reported by the Canada Department of Agriculture as to whether for commercial or for breeding purposes. Imports since 1961, when the series for the more detailed classification of imports was begun, have been relatively small in the case of commercial stock but relatively large in the case of breeding stock.

In 1965, hatching egg and live imports for commercial stock totaled 1.2 million eggs and 169,000 chicks respectively. Most of the imports were by hatcheries in Eastern Canada.

On the other hand, imports in 1965 of layer type hatchery eggs and chicks for breeding purposes numbered 326,000 and 350,000 respectively. This is roughly equivalent to about 430,000 pullets, which represents almost 50 per cent of total numbers in layer type hatchery supply flocks at the time of the 1966 Supply Flock Survey. Most of these breeder imports were placed in hatching egg production and represent the most important source of commercial hatching eggs. Most of the breeder hatching eggs were imported into Eastern Canada, but breeder chick imports were mainly to Ontario and Western Canada.

Canadian exports in 1965 of hatching eggs and chicks for egg production totaled 1.0 million and 776,000 respectively. Although no breakdown is available as to whether the exports were for commercial or for breeding purposes, it is believed that most of the chicks exported were breeder stock. The chick exports originated in Ontario, while Ontario and B.C. accounted for practically all the hatching egg exports.

J. D. F. Kidd

TABLE 3—EGG TYPE PULLET CHICK PRODUCTION, PLACEMENTS AND TRADE BY REGISTERED HATCHERIES IN CANADA, BY PROVINCE, 1965

	Pullet Placements	Exports		Imports			Net Trade	Pullet Chick Production
					Foreign			
		Domestic	Foreign	Domestic	Commercial	Breeding		
	thousands							
British Columbia	2,472	13	1	97	14	51	−148	2,324
Alberta	2,460	332	—	147	—	41	144	2,604
Saskatchewan	2,253	89	—	829	—	7	−747	1,506
Manitoba	2,717	421	23	72	6	46	320	3,037
Ontario	7,312	649	717	40	—	172	1,154	8,466
Quebec	3,668	22	35	238	146	24	−351	3,317
Atlantic Provinces	1,886	53	—	156	3	10	−116	1,770
Canada	22,768	1,579	776	1,579	169	351	256	23,024

VERTICAL INTEGRATION AND THE POULTRY MEAT INDUSTRY

J. T. Hill (1)

There appears to be some confusion as to the exact meaning of the term "vertical integration", especially as it applies to agriculture. This paper sets out to clarify the concept, at least as it is used in one agricultural industry where its development has been perhaps the most thorough, that of the poultry meat industry.

The phenomenon of vertical integration or combination of industrial enterprises was known to the early economists. Alfred Marshall, in his discussion of industrial organization, noted the difference between "differentiation" and "integration" and in so doing provided perhaps the first definition of the term, ".....a growing intimacy and firmness of the connections between the separate parts of the industrial organism ....." (*2*). Another early economist, F. W. Taussig, went further than Marshall, while examining large-scale production. He recognized that the division of labor resulted in each stage of production being carried out by independent firms but he also noted: "Vertical combination, or the integration of industry appears when all the successive steps are united under single management" (*3*).Taussig used the iron and steel industry as an illustration of vertical combination and went on to state that agriculture revealed the 'least' movement toward combination at that time (*4*).

More recent comments on the concept of vertical combination have been made by Boulding and by Bain. Boulding stated that vertical combination took place among firms "..... one of which uses the product of the other." (*5*). He was of the opinion that vertical combination was less monopolistic in its inception than horizontal combination and that it may bring about real cost economies. He injected a *caveat* at this point, however, in pointing out the ulterior motives in the financial promotion of combinations, where owners discover no gain after the various enterprises have been consolidated under one management. Instead, the rewards have been reaped by the promoters.

Bain was more interested in the effects of "..... 'vertical' growth or extension via integration of preceding or succeeding productive processes", on the efficiency of the enterprise (*6*). It was possible for one integrated firm to ".....perform a series of successive productive functions more efficiently than they could be performed by a number of individual firms each of which performed only one function." (*7*). Bain pointed out, however, that not all vertical integration resulted in greater economies. To be efficient, much depended upon the nature of the production processes involved, the stable demand for the finished product, the ability of the end product to absorb sufficient quantities of the raw material supplied to make integration potentially desirable and the reconciliation of the various stages of production to the most efficient minimum optimal scale of any one level or stage of the integrated enterprise (*8*).

The opinions of the economists as reflected above, are given with the idea in mind that vertical combination was a phenomenon which occurred primarily in large complex industries such as iron and steel, petroleum and automobiles. Iron and steel was the standard example given by most economists for a vertically integrated industry. None of them recognized the possibility of its extensive application in agriculture. Economists became aware of its importance in the production, processing and marketing of agricultural products in the immediate post-World War II decade and especially so during the period 1955 to 1959 when considerable space in the farm economic journals was devoted to it. Apparently, it was the poultry industry which provided the best example of integration in agriculture (*9*).

VERTICAL INTEGRATION DEFINED

While studying the phenomenon of vertical integration in agriculture, economists found themselves grappling with the problem of defining the term. It was recognized that vertical integration involved the co-ordination of various stages in the productive process and the tendency toward centralized decision-making. However, in the poultry industry this was happening without certain sectors, that is, the poultry growers, having to relinquish ownership of their enterprise. Growers were, it was true, abiding by the management decisions of other authorities, the feed company, the processor or the hatchery, but this was done through contractual arrangements. Thus *ownership* of the various stages of the production and marketing of the product was not the sole criterion for vertical integration as implied by Taussig. In fact, the author of this paper prefers to retain Marshall's definition in which he saw vertical integration as a "growing intimacy....." between the several parts of an industry (*10*). This could easily apply to contractual arrangements between grower and feed dealer or processor.

In his article on vertical integration in the broiler industry, S. K. Seaver uses the term as defined by Frank Fetter (*11*). Fetter's definition places the emphasis on the uniting of plants and resources "..... in

respect to ownership." (*12*). However, Seaver goes on to say:

> But if the "state of united ownership" is assumed to include agreement with the producer on the use of resources devoted to raising broilers as well as outright ownership, most firms in the broiler industry would very well fit this definition of vertical integration. (*13*)

Thus, Seaver has avoided what appears at first to be a tight definition by interpreting it broadly, perhaps more so than Fetter intended. Seagraves and Bishop followed a year later with an article which claimed that the concept of vertical integration was "relatively new" and not "uniquely defined" (*14*). They go on to say that Seaver's definition was a "very narrow" one since it was concerned with what they term "owner-integration" only. Seagraves and Bishop make a distinction between "owner-integration" where two or more stages are united under the complete ownership of one firm and "decision integration", described as a special aspect of "owner-integration", where decision-making is co-ordinated by agreement or contractual arrangement.

Seagraves and Bishop failed to note that Seaver had avoided the complications of this dichotomized definition in his article. Nevertheless, in making their two-fold explication, they furnish a plausible reason for doing so. They point out that "owner-integration" is more useful for empirical work where a more exacting definition of the term is required. This point will become important when the current extent of integration in the poultry industry is examined and it becomes necessary to make the distinction between ownership and contractual agreements.

Within the terms expressed above, of ownership and contract, we have seen that managerial decisions and risks can be co-ordinated through the various stages of the production and marketing of poultry. The degree of control exercised by the decision-maker in the integrated enterprise depends upon the nature of control. H. K. Leckie has shown how variable this can be (*15*). He lists six types of integration from complete ownership through centralization by co-operative, by government and by varying types of contract.

Before leaving this discussion of how vertical integration has been defined, especially as applied to agriculture, mention should be made of the Fourth Annual Workshop of the Canadian Agricultural Economics Society which met in the summer of 1959 to discuss vertical integration in agriculture. The three discussion groups failed to achieve unanimity in the definition of the term. Two groups adhered to the concept of owner-integration, excluding all forms of contractual arrangement from the definition. The third group, however, accepted the possibility of the co-ordination of decision-making through formal contractual agreements ". . . by which companies and individuals by-pass the open market." (*16*). The Workshop Report went on to say that the term 'integration' was being used in two different senses in each of these definitions but failed to explain what these 'senses' were.

INTEGRATION AND THE POULTRY MEAT INDUSTRY

In the discussion of definitions, it was seen that vertical integration fell into two fairly distinct forms, *owner-integration* and what can be termed *contract-integration*. Both of these types are found in the poultry industry. The hatcheries, processing plants and feed companies offer the most common examples of owner-integration. Contract-integration is commonly found between producer and hatchery, processor or feed company. While much of the analysis in this paper is based on data from secondary sources, more depth is provided by a survey by the author of nine Ontario processing plant managers, a tour of several plants and hatcheries, and numerous contacts with persons in the poultry industry which were made during the summers of 1963 and 1964 (*17*).

Owner-Integration

The most prominent integrators in the poultry industry are the large meat packers. These firms have integrated horizontally as well as vertically, by acquiring several processing and packing plants across the country. One meat packer, A, owned several registered processing plants and grading stations in 1963 while the other, B, owned several processing plants. Only seven of Meat Packer A's plants processed poultry in 1963, but taken together these plants set Meat Packer A above any other in Canada in total volume of poultry processed.

Meat Packer A is also well integrated vertically. This was found to be a positive company objective in 1957 as was discovered by the Restrictive Trade Practices Commission, when the company came under scrutiny in 1959, as a result of its acquisition of Meat Packer C (*18*). The Commission's Report revealed that Meat Packer A owned several small hatcheries, and had been actively engaged in the production of poultry feed for a number of years. In fact, the Report revealed that in 1958, Meat Packer A's sales of chicken broiler feed represented 23.2 per cent by weight of the total sale of this type of feed in Canada (*19*).

In 1963, Meat Packer A obtained effective ownership of Hatchery A, a fairly large Ontario hatchery producing 4.7 per cent of the total broiler chicks and 6.4 per cent of the total turkey poults hatched in the province in 1963. In addition, two hatcheries on the Prairies, which produced close to 11 per cent of the broiler chicks in this region in 1963, were owned by Meat Packer A.

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Meat Packer B is the other large integrated poultry processor. Meat Packer B owns several hatcheries in the Prairie Provinces and Ontario. The output is large, amounting to 10.9 per cent of the broiler chicks and 14.4 per cent of the turkey poults hatched on the Prairies and 8.2 per cent and 17.8 per cent of the Ontario hatch of broiler chicks and turkey poults. Packer B also owns a number of feed mills.

Specific mention should be made of one feed company, Feed Company A, which has acquired two large poultry processing plants. One of these plants, situated in British Columbia, processed the largest volume of poultry in that Province in 1963, while the other plant, situated in Ontario, ranked close to the top in volume processed in that province. Feed Company A has established a position second only to Meat Packer A in the volume of broiler chicken processed in Canada by acquiring these two plants.

Two other feed companies, Feed Company B and Feed Company C, have each acquired a processing plant in Ontario. Each of these plants processed about six per cent of the 1963 total provincial output of poultry and about 10 per cent each of the output of broiler chicken. These plants were equipped to handle large numbers of broiler chicken and thus very little turkey was processed. This specialization in broiler output has prompted each company to set up broiler chick hatcheries in the vicinity of their plants. Their combined output amounted to between four and 4.5 million chicks in 1963, about nine per cent of the provincial total.

A third type of owner-integrator is the co-operative. There are several large co-operative organizations processing poultry in the Prairie Provinces, Ontario and Quebec. These organizations reveal perhaps the most complete form of vertical integration. In Alberta, Co-operative A is owned by the growers. They have their own hatcheries, feed mills and own several processing plants. Growers who are members of the co-operative can buy chicks and feed from their own organization and can send their mature birds to any one of the plants for processing at the date arranged by the plant managers. Similar integrated co-operatives can be found in Saskatchewan and Manitoba.

Co-operative B in Ontario, which distributes a large variety of farm supplies for its member local co-operatives, in addition manufactures and distributes poultry feed. It is associated with Co-operative C and Co-operative D which was, up until 1958, a division of Co-operative B, but is now under separate management. Co-operative B purchased a poultry processing plant in 1959. This plant was described as having an annual output of 20 million pounds (*20*), which placed it among the top ten plants in Canada in terms of volume. This large co-operative organization provides an excellent example of integration in many phases of Ontario agriculture, including poultry.

There are large integrated co-operatives in Quebec. Three of these owned several processing plants which together handled a considerable volume of poultry in 1963. These co-ops are integrated vertically. As in all co-operative organizations, they are owned by the members, most of whom are poultry owners. They control feed mills, hatcheries and processing plants. In fact, the total volume of poultry handled by co-operatives in Canada is very significant. Taking the major co-operatives in each province, they handle together about 25 per cent of the Canadian total (processed by the top firms in each province).

Co-operative organization is one way growers can increase their bargaining power and integrate forward, but there are also examples of initiative from independent poultry growers who have built plants to process their own birds and in some cases to control breeding and hatchery operations as well. Examples of this type of integration by growers were found in southwestern Ontario, particularly among turkey growers. One grower raised close to 80,000 turkeys. He grew several hundred acres of corn for use as feed and had constructed his own processing plant sufficient in size to handle his own crop in addition to some custom work for other growers. Another large grower of turkeys owned his own hatchery and hatchery supply flock. To eliminate the risks involved in assuring access to processing facilitites for his 118,000 turkeys each year, he set up processing facilities of his own to Canada Department of Agriculture, Health of Animals' specifications, processing and marketing his own brand through the open market (*21*). This type of initiative by growers requires considerable business acumen and, of course, the capital funds for expansion must be available to those growers wishing to undertake this type of integration.

One final example of owner-integration in which the hatchery stands out as the co-ordinating force can be provided. Hatcheries realize the importance of insuring an uninterrupted market for their product just as feed companies and growers do. Processors, at the same time, want to be sure that their plant is not idle for lack of birds to kill and eviscerate for any but very short periods of time. These circumstances provide natural incentives for co-operation and perhaps eventual integration. One of Canada's largest turkey hatcheries situated in southwestern Ontario has taken steps to reduce the potential risks involved in not having markets for its large output of poults by purchasing controlling interests in two of Canada's largest processing plants. Since one of these plants was moving as a matter of policy to greater control over the growing operation (*22*), this move appears

to involve extensive owner-integration of the breeding, hatching, growing and processing of turkey with the hatchery enterprise as the focal point for management decisions of the integrated organization.

Contract-Integration

As indicated above, the most common occurrence of contract-integration takes place between grower and processor, feed company or hatchery. It is not surprising that the grower is the focal point for contractual arrangements. Poultry meat consumption has tripled in thirty years and there are many growers specializing in meat production who have increased the size of their flocks to meet this demand. While flocks of 5,000 broiler chicken or less are still common, commercial operations were considered to be more efficient with much larger flocks. Evidence given before the Restrictive Trade Practices Commission revealed that Meat Packer A considered ". . . a good economic unit would be one capable of housing 20,000 broilers and producing about 4 crops per year." (*23*). This view was also held by H. K. Leckie who said in discussing poultry meat production in 1959:

> In place of relatively small flocks, previously operated more or less as a "sideline", efficient production is now considered in terms of units of at least 25,000 bird capacity, which are emptied and filled four times a year. (*24*)

In Ontario, about 20 per cent of the broiler growers had space for 20,000 birds or more. The study by Trant and Nurse from which this information is drawn found that in 1960, the average broiler enterprise in Ontario had room for about 15,000 birds and that the average grower was producing at about 83 per cent of his four crop per year capacity (*25*).

To raise flocks of this size, growers required larger buildings, better equipment, improved breeds and adequate supplies of top quality feed. This meant a greater need for working capital. In the Report of the Restrictive Trade Practices Commission, Meat Packer A's officials, who were quoted previously as stating that a 20,000 bird operation was an economic unit, went on to say:

> The capital required to provide buildings for this number of chickens, to purchase baby chickens and feed, would amount to about $50,000. As few producers had this amount of capital, the feed companies, processors or hatchery operators provided financial assistance to producers willing to raise chickens under agreed arrangements. (*26*)

Thus, by signing a contract with a processor, hatchery or feed company, the grower was obliged to send all his birds to one plant at a particular date, at a prearranged price, or was required to purchase his chicks or feed from one company, depending upon the other party to the contract. In return, he received financial assistance, technical and managerial advice and reduced the risk of losses possible in the sale of his birds if he had to negotiate as an independent producer on the open market.

Contract-integration is a widespread phenomenon in Ontario. The Trant and Nurse survey found that 88 per cent of the broilers produced in 1960 were grown or marketed under some form of contract. Only 14 per cent of the growers with about 13 per cent of the production capacity were independent. Seventeen per cent of the growers had an agreement to sell part of their annual crop to a specific processor, and in addition, were to purchase all chicks and/or feed from one named source. Additional requirements were often imposed on these latter contract growers such as "the type and number of chicks started per crop; time and weight of marketing and the time between successive crops." (*27*). In many cases, the contractor and not the grower owned the feed or the chicks, or both, during the period the birds were being grown.

Other characteristics of contracts which the Trant and Nurse survey revealed include—duration of the agreement: usually for four crops renewable automatically unless one of the parties objected; premium payments: for above average weights, usually $\frac{1}{2}$ cent a pound for crops averaging more than 3.5 pounds per live bird; contract prices: usually a formula geared to the market price in such a way that the grower received no less than the market price and usually more.

The types of contracts found in Ontario are representative of those used throughout the rest of Canada, varying mostly where climatic or regional differences dictate. In British Columbia, marketing is controlled by the B.C. Broiler Growers' Marketing Board, a producer marketing board operating under legislative authority, which sets production quotas for growers within the region (*28*).

Further information as to the nature of contract-integration was provided in a survey by the author of the large processing plants in Ontario. All of the plants had contractual arrangements with growers. The size of flocks varied from plant to plant, one claiming to have 80 growers under contract with from 20,000 to 30,000 birds in each flock. Other plants reported average flock sizes of 15,000 17,000 to 18,000, and 25,000 under contract. For one plant processing turkey, there were contracts with 12 growers with flocks varying from 20,000 to as many as 150,000 birds. Total birds under contract to supply the plant were 496,000 light turkeys and 466,000 heavy turkeys. This was enough to keep the plant in operation for 130 eight-hour days (*29*). Another plant handling turkeys reported having growers with flocks ranging from 500 to 50,000, the average being about 5,000 light turkeys and 10,000 heavies.

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Comments by plant managers as to the need and effectiveness of contracts varied. One plant operator felt that is was necessary to go further than the contract and predicted complete ownership of the growing operation by his plant within three years. At the same time, another processor, who had experimented with flock ownership, was planning to return to contract arrangements and dispose of the actual ownership of the growing operation. The other processors were satisfied with their contractual arrangements with growers. They agreed it was necessary for the plant to have a guaranteed source of supply but saw no need to go as far as complete ownership of the flocks. In most cases, the decisions as to how many birds the grower was to raise, the kind of bird raised, the date the birds were to be shipped to the plant and the ultimate price paid to the grower, were in the hands of the processing plant. The processing plant co-ordinated the two operations, growing and processing. Where the plant was owned by a feed company or a hatchery, co-ordination of the supply of feed and chicks along with growing and processing was the responsibility of the management involved.

CONCLUSIONS

The very fact that most of the feed companies have not completely integrated their operations by owning large flocks of poultry but favor contractual arrangements with a number of independent growers, suggests that they have more to gain by avoiding the responsibility of ownership in this phase of production. It appears that this break in the complete vertical integration of a firm which owns the feed, hatching and processing facilities is a deliberate one and that where the feed company is the decision maker of the organization, the policy is to adhere to the contract as the method for obtaining customers for feed and chicks and birds for the processing line. On the other hand, where the hatchery initiates the integration, flock ownership may be the planned objective and, of course, where the grower integrates forward or backward, flock management comes under control of the integrated complex. However, in these cases, feed still has to be purchased from one of the large feed companies, even when home-grown grain is used and the organization possesses a small mill. Poultry require feeds containing high energy protein, concentrates, antibiotics, growth factors, etcetera, and the large feed companies appear to be in the best position to fill these requirements. Therefore, it appears that complete vertical owner-integration has not yet been established by any of the large organizations and that contract-integration remains as the best alternative way of linking either the growing phase or, where applicable, another phase of production (*30*).

It is difficult to say exactly how much of the industry is involved in either contract- or owner-integration. The data examined leads the author to hazard the estimate that more than three-quarters of the growers in Canada who have commercial flocks of at least 5,000 broilers and 1,000 turkeys have contracts with one or other of processors, hatcheries or feed companies. In Ontario, this figure is closer probably to 90 per cent. As for owner-integration, one can say without hesitation that most of the large processors are part of an organization in which at least two of the major phases of the industry are under the same management. In 1963, for example, 11 of the top 15 processors, providing about 54 per cent of the total volume marketed through registered plants, were owner-integrated. Three of these plants belonged to meat packers, two of which owned hatcheries and feed mills. Three were owned by feed companies, five were part of co-operative organizations, and four were independent. One of these independent firms has since gone into bankruptcy, while two others have become part of a newly organized complex which includes a large hatchery and growing operation. This continuing trend toward greater consolidation in the industry leaves only one non-owner-integrated plant among the major processors in Canada.

NOTES AND REFERENCES

(*1*) Formerly Economics Branch, Canada Department of Agriculture, now Food Products Branch, Department of Industry, Ottawa.

(*2*) Alfred Marshall, *Principles of Economics*, Eighth Ed., London: MacMillan & Co. Ltd., 1962, p. 201.

(*3*) F. W. Taussig, *Principles of Economics*, Third Ed., Revised, Vol. 1, New York: MacMillan Co., 1930, p. 60.

(*4*) *Ibid.*, p. 66.

(*5*) K. E. Boulding, *Economic Analysis*, Revised Ed., New York: Harper & Bros., 1948, p. 608.

(*6*) J. S. Bain, *Industrial Organization*, New York: John Wiley & Sons, 1962, p. 110.

(*7*) *Ibid.*, p. 156.

(*8*) These prerequisites for potentially efficient integration are found in Bain's discussion, *ibid.*, pp. 157-9.

(*9*) See for example R. L. Kohls and J. W. Wiley, Aspects of Multiple-Owner Integration in the Broiler Industry, *Journal of Farm Economics*, February, 1955, p. 81.

(*10*) Marshall, *op. cit.*, p. 201.

(*11*) Stanley K. Seaver, An Appraisal of Vertical Integration in the Broiler Industry, *Journal of Farm Economics*, December, 1957, p. 1487.

(*12*) *Ibid.*, 1487.

(*13*) Seaver, *ibid.*, p. 1487.

(*14*) J. A. Seagraves and C. E. Bishop, Impacts of Vertical Integration on Output, Price and Industry Structure, *Journal of Farm Economics*, December, 1958, p. 1814.

(*15*) H. K. Leckie, Whither Integration, *Canadian Journal of Agricultural Economics*, Vol. VII, No. 1, 1959, pp. 53-4.

(*16*) Canadian Agricultural Economics Society, *Vertical Integration in Agriculture*, Report of the Fourth Annual Workshop, June, 1959, p. 62.

(*17*) The interviews with the nine poultry processing plant managers took place in June and July of 1964.

(*18*) Canada, Restrictive Trade Practices Commission, *Report Concerning the Meat Packing Industry and the Acquisition of Wilsil Limited and Calgary Packers Ltd. by Canada Packers Limited*, R.T.P.C. No. 16, Ottawa: Queen's Printer, 1961.

(*19*) *Ibid.*, pp. 236-248, and Table 61.

(*20*) This figure was given in a pamphlet entitled *Tend-R-Flesh*, published by the U.C.O. organization.

(*21*) The manager of the plant informed the writer that 90 per cent of this firm's product is marketed through brokers.

(*22*) In an interview, the manager of one of the plants which had contracts with several growers having flocks of from 20,000 to 50,000 birds stated that the firm planned to start production within three years.

(*23*) Report on Meat Packing, *op. cit.*, p. 236.

(*24*) Leckie, *op. cit.*, p. 58.

(*25*) G. I. Trant and J. H. Nurse, *Broiler Contracts in Ontario*, Ontario Agricultural College, Guelph, 1961, p. 1.

(*26*) *Op. cit.*, p. 236.

(*27*) Trant and Nurse, *op. cit.*, pp. 2-4.

(*28*) The Ontario Broiler Chicken Producers' Marketing Board was set up in 1965 to regulate the production, marketing and processing of broiler chicken in the province. However, market conditions described in this paper were as yet unaffected by Board actions.

(*29*) The plant capacity was sufficient to handle 600-900 heavy turkeys and 1,100 light turkeys an hour.

(*30*) Hatcheries, for example, are linked to the large breeders by contract.

FARM MACHINERY SYNDICATES IN THE PRAIRIE PROVINCES

B. H. Sonntag

The Farm Machinery Syndicates Credit Act, passed in October 1964, provides for the extension of intermediate term credit to groups of farmers for the purchase of farm machinery. The Act was prompted by the concern of government, farmers and farm organizations over the rising costs of farm machinery, especially those costs related to the ownership of machinery.

A farm machinery syndicate, for purposes of the Farm Machinery Syndicates Credit Act (abbreviated to "Act" or "FMSCA" hereafter) has been defined as a "group of three or more farmers operating independently of one another or who are members of a co-operative farm association, the majority having farming as their principal occupation; and who have signed a written agreement for the joint purchase of farm machinery primarily for their own use" (*1*). The agreement drawn up by the farmers concerned must be acceptable to the Farm Credit Corporation, the agency responsible for administering the Act.

Under the provisions of the Act, a syndicate may borrow up to 80 per cent of the cost of any machine which can be used jointly by the members in the operation of their farms up to a maximum of $15,000 per member, or $100,000 per syndicate, whichever amount is the lesser. Loans are repayable by the syndicate in equal annual or semi-annual instalments of principal plus interest over a period not exceeding seven years. Usually the repayment period is five years.

The syndicate program is intended to be financially self-supporting. In order that this objective may be achieved, the interest rate on loans is based on the cost of funds to the Farm Credit Corporation. On all loans made thus far the rate is six per cent. In order to cover the Farm Credit Corporation's expenses in servicing syndicate loans, a service charge is made of one per cent of the loan amount. The service charges are subtracted from the amount of the loans before they are disbursed.

The primary security for any loan made under this Act is a promissory note, signed by each member of the syndicate, by which each member undertakes to be jointly and severally liable for the outstanding amount of the loan. The "joint and several promissory note", in effect, urges each syndicate member to assess the reliability and financial stability of the other members with whom he will be jointly responsible for repayment. The Act also provides that, at the discretion of the F.C.C., other security may be required. In situations where a loan is large relative to assets of the members of a syndicate, where the credit rating of some members is questionable or where substantial debts are outstanding with other creditors, a chattel mortgage may be required. As a general rule, the F.C.C. requires syndicates to obtain public liability insurance and, where risk of damage or loss by fire or other hazards is high, insurance coverage for these may be required also.

The principal objective of the Farm Machinery Syndicates Credit Act is to assist farmers to reduce machinery ownership costs by allowing groups of farmers to obtain joint loans for farm machinery purchases. At the same time the legislation attempts to ensure that the cost reductions inherent in joint ownership of machinery do not result in increased repair and operating costs, reduced timeliness of operations or losses from other sources. This is the purpose of the local agreement which is drawn up by syndicate members and is subject to approval by the F.C.C. These local agreements establish use priority among members; use quotas; cost sharing arrangements; storage, maintenance and repair responsibilities; and custom work and rental arrangements. Farmers have long recognized that machinery sharing arrangements offer economic and other advantages and they have through custom work, labor and machine exchange and joint ownership on an informal basis, taken advantage of such savings. The machinery syndicate program attempts to establish these sharing arrangements on a businesslike basis regarding repair and maintenance responsibility, cost sharing, use sharing, etc.

The question often arises as to what machines are adapted to co-operative ownership and use. A number of guidelines can be suggested to help answer this question:

(1) Machines for which time of use is not critical. Examples of such machines are manure spreaders, stone pickers, stack movers and portable feed mix mills.

(2) Machines for which maintenance requirements are low. Most of the machines mentioned in (1) above fall into this category. Where machines which have high maintenance requirements are jointly owned and used, such as tractors and combines, it is desirable to keep the membership small.

(3) Machines which require a number of power units and/or large amounts of labor. Haying and silage equipment are examples here.

(4) High cost machines for which annual use by individual farmers is low. For small farmers, most of the machines mentioned above could be cited as examples. While consideration of these guidelines can assist in selecting machines suitable for joint owner-

TABLE 1—COST OF MACHINERY OPERATION AND OWNERSHIP ON SELECTED FARMS[a] IN THE PRAIRIE PROVINCES

	Size of Farm			All Groups
	Small	Medium	Large	
	acres per farm			
Improved acreage	217	517	1,020	518
	dollars per farm			
Farm Capital				
Total farm capital	25,659	51,168	67,465	46,039
Machinery and equipment capital	5,566	11,504	16,860	10,615
Farm Expenses				
Cash operating	2,487	4,055	3,934	3,520
Depreciation	1,198	2,088	2,658	1,909
Investment	1,283	2,558	3,373	2,302
Total	4,968	8,701	9,965	7,731
Machinery Expenses				
Cash operating	807	1,315	1,624	1,210
Depreciation	906	1,690	2,236	1,541
Investment	278	575	843	531
Total	1,991	3,580	4,703	3,282

[a]Data for large farms were obtained in the prairie area of Saskatchewan, data for medium-sized farms were obtained in all of the major soil zones in the Prairie Provinces and data for small farms were obtained primarily in the parkbelt of Manitoba and Alberta.

Source: Based on data from 13 published or unpublished reports of the *Changes in Farm Organization Study*, Economics Branch, Can. Dept. Agric., Edmonton, Saskatoon and Winnipeg, 1960-64.

ship and use, the key to success of a farm machinery syndicate or any other co-operative venture is the ability and willingness of the individual members to co-operate.

Machinery operation and ownership costs are the largest cost category on most farms in the Prairie Provinces. The importance of machinery operation and ownership costs on three size groups of farms in the Prairies is shown by the data in Table 1 (*2*). The size groups were established on the basis of cultivated acreage and refer roughly to half section; one-section and one and a half- to two-section farms, respectively. The data indicate that almost one quarter of all farm capital is invested in machinery and equipment and that over 40 per cent of farm expenses are machinery operating and ownership expenses. Ownership costs, that is interest on investment and depreciation allowances, represent over 60 per cent of the total machinery expenses or 27 per cent of the total farm expenses. On the larger-sized farms, machinery costs represent a greater proportion of total costs than for the three groupings as a whole.

Another aspect of machinery costs which has important implications for the farm machinery syndicate program relates to replacement costs of farm machinery. To replace existing machines on the farms described by the data in Table 1 with new machines of the same sizes and types would cost an estimated $76, $54, and $37 per improved acre on small, medium and large farms, respectively. Inventory values of existing machines on these farms were estimated at $24, $21, and $17 per improved acre. Therefore, the ratios of inventory value to replacement costs were 32 per cent, 39 per cent and 46 per cent, on small, medium and large farms, respectively. The replacement cost estimates show that it is much more costly on a per acre basis for small farms to purchase up-to-date machinery than it is for larger farms. The ratios of inventory value to replacement costs give an indication of the condition of machines on different sizes of farms. Because of the proportionately higher cost of machinery replacement and the depreciated value of machines on small farms it seems logical to expect that the syndicate program should have its greatest impact on small farms.

* *

In the fall of 1965 a study of farm machinery syndicates in the Prairie Provinces was initiated to examine, among other things, the operating arrangements, the effects of syndicate machine purchases on farm costs, the extent of machinery sharing arrangements outside the syndicate program and the capital structure of syndicate member farms. Sixty-seven farmers in 30 syndicates in the Prairies were interviewed. At that time there were 71 farm machinery

TABLE 2—SIZE, CULTIVATED ACREAGE AND TENURE OF FARMS IN 71 FARM MACHINERY SYNDICATES IN THE PRAIRIE PROVINCES

	Unit	Man.	Sask.	Alta.	Prairie Provinces
Syndicate members	No.	31	71	140	242
Syndicates	No.	10	21	40	71
		average per farm			
Farm size and tenure					
Total	acres	641	755	641	674
Owned	acres	504	533	439	475
Rented and/or leased	acres	137	222	202	199
Cultivated	acres	390	524	415	444

Source: Farm Credit Corporation.

syndicates in the Prairie Provinces (40 in Alberta, 21 in Saskatchewan and 10 in Manitoba) involving 242 farmers (Table 2).

The farm machinery syndicates formed to date are concentrated in the parkbelt areas of the Prairie Provinces and in the irrigation districts of southern Alberta. Many of the syndicates in the parkbelt are located along the fringes of agricultural settlement. Because of this, it was expected that the farms of syndicate members would be smaller than average. This, however, was not the case. Comparison of the average farm size reported by syndicate members with that reported by the 1961 Census showed that syndicate member farms were larger than average.

The data in Table 3 show the types of machines being purchased by farm machinery syndicates; how these purchases are being financed; and the amount of capital involved. The average amount spent by all syndicates for the purchase of machinery was $11,214. Manitoba syndicates spent an average of $5,145, Saskatchewan syndicates spent $6,820 each and Alberta syndicates averaged $15,039. Loans to all syndicates averaged $8,319 with Manitoba, Saskatchewan and Alberta syndicates averaging $3,980, $5,251, and $11,015, respectively. The balance of the cost of the machines was divided fairly evenly between cash down payments and trade-ins.

Loans approved for syndicates ranged from a low of $632 to a high of $40,400 while the cost of machines purchased by these syndicates ranged from $790 to $56,100. Forty-four per cent of the syndicates purchased only one item but one syndicate purchased eighteen. The number of members per syndicate ranged from the statutory minimum of three to a high of eight. Most syndicates (79 per cent), however, had three members.

TABLE 3—MACHINERY PURCHASED BY 71 SYNDICATES IN THE PRAIRIE PROVINCES

	Man.	Sask.	Alta.	Prairie Provinces
	average per syndicate			
Purchase price of machinery ($)	5,145	6,820	15,039	11,214
Loan for syndicate machinery ($)	3,980	5,251	11,015	8,319
No. of items purchased	2.2	2.5	4.5	3.6
	per cent of purchase price			
Loan for syndicate machinery	77.4	77.0	73.2	74.2
Down payment—Cash	14.2	10.5	13.3	12.7
—Trade-in	8.4	12.5	13.5	13.0
	per cent of all purchases			
Types of machinery purchased				
Tractors and trucks	13.5	19.8	39.8	34.5
Harvesting equipment—Grain	56.0	30.5	22.6	26.2
—Forage	19.2	10.8	4.7	6.7
Seeding equipment	2.0	3.3	4.7	4.3
Tillage equipment	—	6.7	8.0	7.2
Livestock equipment	5.3	2.0	0.8	1.3
Clearing & breaking equipment	—	20.0	9.8	11.0
Special equipment[a]	4.0	6.9	9.6	8.8

[a]Includes root pickers, rock pickers, fertilizer applicators, hydrocoolers, and other smaller items.

Source: Farm Credit Corporation.

Almost all types of machines found on Prairie farms were purchased by the farm machinery syndicates. Power and harvesting equipment accounted for the major portion of the value of purchases under the syndicate program (Table 3). (In terms of the number of machines purchased, the proportion was much lower.) In Manitoba, equipment in these categories accounted for almost 90 per cent of the syndicate purchases. In Saskatchewan and Alberta, about 61 per cent and 67 per cent, respectively, of syndicate purchases involved power and harvesting equipment. Seeding, tillage and livestock equipment accounted for almost 13 per cent of syndicate purchases and equipment such as clearing and breaking outfits and special machines, which are not commonly found on farms in the Prairie Provinces, made up the remainder. The proportion of syndicate purchases (one-fifth) in the last category is significant since, on the average, these machines form a much smaller proportion of the machinery inventory on farms. This would indicate that syndicates are being formed to buy specialized machines for which the individual farmer's need is small in relation to the cost of the machine.

The data reported in Table 4 were obtained in interviews with 67 members of 30 farm machinery syndicates in the Prairie Provinces. Average capital investment on these farms was just under $50,000 a farm. Land and buildings accounted for $30,535 of this total, machinery for $12,738 and livestock and other farm assets made up the remaining $6,414. The average total liability of syndicate members, including their share of the syndicate loan, was $12,952 a farm. Almost $8,000 of this was in the form of loans outstanding on land purchases. Loans for machinery purchases averaged $4,476 a farm for the machinery syndicate members, $1,894 of which was for syndicate machinery. The most common source of credit for land purchases was the Farm Credit Corporation. Credit for machinery purchases was normally obtained under the Farm Improvement Loans Act, with secondary sources being credit unions, machinery companies and, more recently, the Farm Credit Corporation under the Farm Machinery Syndicates Credit Act.

The farm machinery syndicate loans constitute a significant portion of machinery liabilities on syndicate member farms; syndicate loans formed 42 per cent of machinery liabilities and 15 per cent of total liabilities. The total liabilities of syndicate members other than syndicate liabilities varied considerably with type of syndicate, size of syndicate loan and net worth of syndicate members. Average total liabilities of the members of syndicates which purchased general farming equipment such as tractors, trucks, tillage and harvesting machinery were $9,843. Farmers who formed syndicates to purchase special equipment had liabilities of $6,777 a farm while those who formed multi-machine syndicates had liabilities of $21,755 a farm prior to formation of the syndicates.

Syndicate loans were largest on farms with the lowest net worth. The average net worth of the members of syndicates which had loans in excess of $10,000 was $26,910 a farm as compared to a net worth of $40,840 a farm for members of syndicates with loans of less than $5,000. The same sort of relationship was apparent between non-syndicate liabilities and size of syndicate loans; syndicate loans were largest on farms with the largest non-syndicate liabilities.

Machinery sharing arrangements, other than farm machinery syndicates, are common among syndicate members in the Prairie Provinces. This was indicated in several ways. First, syndicate members shared in the ownership of the present machine complement on their farms, owning on the average 81 per cent of the total value of the machinery (Table 4). If machines purchased under the syndicate program were included, the proportion dropped to 61.5 per cent. Approximately two-thirds of the syndicate members interviewed shared in the ownership of some machinery prior to syndicate formation. A second arrangement for machinery sharing of a less formal nature includes those situations, where one farmer owns a disker and another owns a cultivator and both farmers use both machines. This sort of arrangement was common, especially among related farmers. A third arrangement found was the sharing of machine use through labor exchange and custom work.

The syndicate members interviewed were asked to indicate the kind of ownership which they would prefer for specific machines. Farmers, in general, prefer to own all machines privately, primarily because this confers exclusive control over use. Therefore, the question was related by the farmers more to the kind of ownership which would be most advantageous in their situations rather than to actual preference. Almost invariably farmers indicated a preference for private ownership of tractors. Approximately 50 per cent of the syndicate members expressed a preference for joint ownership of combines with the qualification, in many cases, that this be limited to two farmers. About 65 per cent and 80 per cent of the farmers indicated a preference for joint ownership of forage harvesters and rock pickers, respectively.

A large proportion of the machinery syndicates in the Prairie Provinces have been formed by farmers related to each other. All members in 37 per cent of the 30 interviewed syndicates were directly related. In another one-third of the syndicates some of the members were related, usually two members in three-member syndicates. After the loans are repaid some of these syndicates may disband with two of the members buying the third member's share. This

would be most likely to occur with syndicates which have purchased machines with high maintenance requirements. A further indication that this might occur is found in the fact that some syndicate members expressed the opinion that joint ownership by two was preferable to joint ownership by three or more for this type of machine.

Some of the syndicates now in existence could be described as experimental. This is one reason why some of the loans are quite small. It is still too early to predict how these syndicates will develop or what effect they will have on neighboring farmers contemplating the formation of syndicates. Syndicate members were questioned as to the course of action they would have taken in the absence of the FMSCA. In Saskatchewan and Manitoba, approximately two-thirds of the farmers interviewed indicated that they would have purchased the particular machine either privately or jointly with relatives or neighbors if the syndicates had not been formed. Some of these farmers felt, however, the present arrangements were more satisfactory than those which would have been the case in the absence of the FMSCA.

An evaluation of the farm machinery syndicate program in terms of the effect it has had on machinery costs, farm organization, productivity, and other factors would be difficult to make at this juncture mainly because of the short period of time which has elapsed since the program began. A number of factors are involved here. First, very few, if any, syndicate members had made loan repayments at the time the interviews were conducted. This being the case and recognizing that default in loan repayments would be a potential source of difficulty for syndicates, no assessment was made of this aspect as it relates to the syndicate program. Second, the potential of many of the syndicates has not been developed in terms of number of members, use of machines and future purchases. Third, the machine purchases by syndicates were mainly new machines; therefore, repair costs were low so far. Responsibility for repair costs could be a source of future difficulties between members. Fourth, anticipated changes in farm organization resulting from the formation of syndicates are not yet completed. Because of these factors a more detailed evaluation of the farm machinery syndicate program must await several years of operating experience.

TABLE 4—CAPITAL INVESTMENT, LIABILITIES, MACHINERY SHARING ARRANGEMENTS AND RELATIONSHIP OF 67 FARM MACHINERY SYNDICATE MEMBERS IN THE PRAIRIE PROVINCES

	Man.	Sask.	Alta.	Prairie Provinces
No. of syndicates	4	10	16	30
No. of members interviewed	9	23	35	67
		dollars per farm		
Capital investment				
Land and buildings	31,889	26,678	32,715	30,535
Machinery[a]	11,677	10,971	14,171	12,738
Livestock and other assets	10,895	6,110	5,462	6,414
Total	54,461	43,759	52,348	49,687
Liabilities				
Land and buildings	5,778	6,900	9,284	7,995
Machinery[a]	3,949	3,470	5,272	4,476
Livestock and other liabilities	1,578	30	496	481
Total liabilities	11,305	10,400	15,052	12,952
Syndicate liability				
Individual member's share	1,244	864	2,738	1,894
Machinery sharing prior to FMSCA				
Present value of all machinery in which syndicate member has a share	12,823	12,029	13,525	12,917
Present value of member's share	10,325	9,936	10,874	10,478
		per cent of average value		
Member's share of total	80.5	82.6	80.4	81.1
		per cent of all syndicates		
Member relationship				
All members related	50.0	40.0	31.2	36.7
Some members related	25.0	10.0	50.0	33.3
Neighbors	25.0	50.0	18.8	30.0

[a]Includes member's share of syndicate machinery.

ACKNOWLEDGMENTS

The author acknowledges the assistance received in the Farm Machinery Syndicate Study from the staff of the Economics Branch offices in Edmonton, Winnipeg and Saskatoon. The assistance of Messrs. V. J. Miles and W. J. Copeland who conducted most of the interviews is especially appreciated. Thanks are also extended to the Head and Branch offices of the Farm Credit Corporation for their co-operation.

NOTES AND REFERENCES

(*1*) Farm Credit Corporation, *Farm Machinery Syndicate Loans*, pamphlet No. 510/64. See also: George Owen, How to Obtain Farm Machinery Syndicate Loans, *Canada Agriculture*, Vol. 11, No. 2, Spring 1966, pp. 3-5.

(*2*) Based on data from 13 published or unpublished reports of the *Changes in Farm Organization Study*, Economics Branch, Can. Dept. of Agric., Edmonton, Saskatoon and Winnipeg, 1960-64.

MARSHLAND FARMING IN THE SACKVILLE AREA OF NEW BRUNSWICK

G. C. Retson

During 1965 requests were submitted by farm organizations in the Sackville area of New Brunswick for assistance under the ARDA program. Supporting briefs emphasized problems of marshland utilization and the low income position of farmers in the area.

To secure more detail on the area and its problems, a study was conducted by the New Brunswick Department of Agriculture and the Economics Branch, Canada Department of Agriculture. This paper reviews the operations of a small group of farmers and attempts to summarize some of the major farm problems in the area.

AREA OF STUDY

Sackville is located in Westmorland County near the New Brunswick-Nova Scotia border. The adjoining marshes, chief of which are the Tantramar and the Aulac, are part of a group of reclaimed tidal marshes which extend westward into Albert County, New Brunswick, and eastward into Cumberland County, Nova Scotia. Farmers in the study were located in the parishes of Sackville and Westmorland. The agricultural development and current problems of these parishes are similar to those of many other marshland areas located about the Bay of Fundy.

The current position of agriculture in the Sackville area is in sharp contrast to that of earlier times when it was one of the most successful farming districts of the Atlantic region. A further consideration is the fact that despite substantial public and private expenditures on marshland reclamation since 1946, farming in the area has continued to decline.

Initial reclamation of marshlands in the Sackville area was based largely on cash sale of hay. Subsequent developments were closely associated with changes which occurred in the hay market. Demand for hay reached a peak in the early part of the century and was reflected in land values of $150 per acre for good marshland. Replacement of the horse by mechanical power resulted in a decline in the demand for hay. Falling prices for hay, combined with the depression of the 1930's and wartime shortages of labor in the 1940's resulted in inadequate maintenance of drainage and protective works. Following World War II, a major program of marshland reclamation was undertaken by the Federal and Provincial Governments under the Maritime Marshland Reclamation program. In view of the current situation it would appear that this and associated programs have not been sufficient to revitalize the area.

The data in Table 1 indicate a downward trend in number of farms and crop and livestock production during the 1921–61 period in the study area. By 1961 there were only 265 occupied farms in the Sackville area and of these only 124 were classified by the Census of Agriculture as commercial, that is, had sales of farm products of $1,200 or over. The sharp drop in pasture acreage in 1951 and its increase in 1956 and 1961 presumably reflects the flooding of land by the sea and subsequent reclamation. The drop in total farm acreage and average size of farm in 1956 may be associated with a discrepancy in woodland acreage which appears unusually low in view of that reported in 1951 and 1961. The increase in average size of farm in 1961 is probably the result in part of the change in

TABLE 1—CHANGES IN POPULATION, LAND USE AND LIVESTOCK NUMBERS IN SACKVILLE AND WESTMORLAND PARISHES, NEW BRUNSWICK, 1921-61

		1921[a]	1931	1941	1951	1956	1961
Total population	No.	4,513	4,243	4,506	4,472	4,480	4,607
Farm population	"	—	3,131	2,329	2,645	1,817	1,251
Number of farms	"	861	692	525	590	402	265
Average farm size	Acres	108	112	116	104	99	173
Total farm acreage	"	92,740	77,435	60,791	61,571	39,834	45,909
Hay	"	15,294	12,622	10,857	10,858	10,544	10,267
Grain	"	4,204	4,092	3,148	3,337	1,992	1,879
Other cropland	"	1,629	3,978	888	539	754	498
Pasture	"	8,551	8,162	7,734	2,389	8,158	8,710
Other improved land	"	2,164	2,099	1,221	711	927	555
Woodland	"	45,131	35,024	24,780	23,809	11,496	20,549
Other unimproved land	"	15,767	11,458	12,163	19,928	5,963	3,451
Cattle	No.	—	6,136	4,737	4,691	5,533	5,194
Sheep	"	—	1,504	918	960	946	830
Swine	"	—	1,302	1,076	1,686	545	504
Hens and chickens	"	—	21,510	18,005	19,188	13,639	10,287

[a]Complete data are not available on a parish basis.

Source: Censuses of Canada.

Census definition of a farm. However, as indicated by data from the 1965 study, a substantial increase in farm size has occurred since 1961 (Table 5).

METHOD

The typical farm in the Sackville area emphasizes beef production and cash sale of hay. In recent years there has been some increase in dairying mainly in the form of fluid milk production. Farm organization, production and income records were secured from 26 farms, 20 of which were classified as beef and six as dairy farms. Analysis and presentation of data is largely in terms of type of farm with beef farms further divided into two size groups.

FARM AND FAMILY INCOME

The decline in farming in the Sackville area is attributable to a number of factors. Their combined influence is reflected in farm and family income. When income is not sufficient to maintain farm capital and provide an adequate standard of living for the family, a movement out of agriculture takes place. This has occurred in the study area.

Table 2 provides data on farm receipts, expenses, and family income on farms in the study. Income is calculated on a cash basis with no charge for depreciation or interest on investment aside from interest payments actually made during the year. Some significant points indicated by the data are:

(1) Farm cash receipts indicate a high degree of dependence on three enterprises, namely: beef, dairy and sale of hay.

(2) Average farm and family incomes are low. In addition to the use of a rent-free farm home and home consumed farm produce, an average amount of only $1,912 was available for family living and debt retirement.

(3) Dairy farms had larger cash receipts than beef farms but these were offset by higher expenses. During 1965 a number of dairy farms were expanding their operations and heavy capital expenditures for livestock, buildings and equipment were involved. When allowance was made for inventory changes arising from these expenditures, the net returns from farming on dairy farms were higher than on other farms in the study (not shown in the table).

TABLE 2—FARM RECEIPTS, EXPENSES AND FAMILY CASH INCOME BY TYPE OF FARM, 26 FARMS, SACKVILLE AND WESTMORLAND PARISHES, NEW BRUNSWICK, 1965

	Dairy	Beef			All
	6 Farms	10 Farms With Highest Gross Receipts	10 Farms With Lowest Gross Receipts	20 Beef Farms	26 Farms
			dollars per farm		
Farm Cash Receipts					
Cattle sales	2,972	4,889	1,517	3,203	3,150
Other livestock and products	265	567	336	451	408
Milk and cream	10,581	222	437	329	2,695
Hay	1,195	1,768	601	1,184	1,187
Custom work	905	461	150	306	444
Other	465	665	135	401	415
Total Farm Cash receipts	16,383	8,572	3,176	5,874	8,299
Farm Cash Expenses					
Livestock purchases	2,254	1,156	204	680	1,043
Feed purchases	3,413	840	345	592	1,243
Crop expense	687	546	184	366	439
Purchase and repair of machinery	1,821	754	712	733	985
Farm power operating costs	1,205	793	348	570	717
Farm building cost	1,347	399	92	245	500
Hired labor	1,454	923	95	509	727
Municipal taxes	942	527	420	474	582
Other	2,034	1,245	403	824	1,103
Total Farm Cash Expenses	15,157	7,183	2,803	4,993	7,339
Net Farm Cash Income	1,226	1,389	373	881	960
Non-Farm Income	569	660	1,474	1,067	952
Net Family Cash Income	1,795	2,049	1,847	1,948	1,912
			per cent		
Receipts/Expense Ratio	93	84	88	85	88

(4) Dairy farms and the larger beef farms secured most of their income from farming operations. On the smaller beef farms, non-farm receipts were a major source of income.

(5) The data on expenses indicate that farms in this area are dependent upon purchased feed. On the dairy farms, feed purchases amounted to 23 per cent of total cash expenses and on the beef farms, the proportion was 12 per cent. Machinery expenses amounted to 20 per cent and 26 per cent, respectively. Municipal taxes were a relatively large expenditure, averaging $582 a farm or $1.28 an acre.

FARM CAPITAL

Data on farm capital and capital indebtedness are shown in Tables 3 and 4. Capital efficiency as measured by number of years required for cash receipts to equal farm capital was quite low on the smaller beef farms. This is accounted for in part by the fact that operators of these farms are spending a considerable amount of time on off-farm employment and are not using their farm capital to full capacity. Higher capital investment on dairy farms was associated with heavier indebtedness. Variation in debts was probably also related to age of operator; which averaged 46 years on dairy farms, 50 years on the large beef farms and 58 years on the small beef farms.

TABLE 3—CAPITAL INVESTMENT BY TYPE OF FARM, 26 FARMS IN SACKVILLE AND WESTMORLAND PARISHES, NEW BRUNSWICK, 1965

	Dairy	Beef			All
	6 Farms	10 Farms With Highest Gross Receipts	10 Farms With Lowest Gross Receipts	20 Beef Farms	26 Farms
	dollars per farm				
Land	14,133	8,205	3,995	6,100	7,954
Buildings	10,717	6,210	5,460	5,835	6,961
Livestock	13,477	9,085	4,682	6,883	8,405
Machinery	14,379	8,390	5,283	6,837	8,577
Total farm capital	52,706	31,890	19,420	25,655	31,897
	years				
Time for cash receipts to equal capital	3.2	3.7	6.1	4.4	3.8

TABLE 4—CAPITAL INDEBTEDNESS BY TYPE OF FARM, 26 FARMS IN SACKVILLE AND WESTMORLAND PARISHES, NEW BRUNSWICK, 1965

	Dairy	Beef			All
	6 Farms	10 Farms With Highest Gross Receipts	10 Farms With Lowest Gross Receipts	20 Beef Farms	26 Farms
	dollars per farm				
Land and buildings	11,883	1,800	80	940	3,465
Machinery	3,183	995	100	548	1,156
Livestock	1,500	—	—	—	346
Total capital indebtedness	16,566	2,795	180	1,488	4,967

LAND USE

The typical farm in the Sackville area has its farmstead and part of its acreage located on an upland ridge. There is usually an adjoining acreage of marshland. In addition most farms operate a number of individual lots of marshland located in nearby reclamation developments. Farm layout tends to be elongated with some of the lots located three or four miles from the farmstead.

In presenting the data on land use and crop production in Table 5, a separate analysis has been made of marshland and upland operations. Some of the more significant aspects of land use in the study area are:

(1) Size of farm (456 acres) is relatively large in terms of New Brunswick agriculture. During the past ten years the acreage on the study farms increased by 67 acres a farm.

(2) Hay or pasture was the major crop and accounts for 92 per cent of the improved acreage in each farm.

(3) Yields of hay (1.27 tons per acre) on marshland soils were lower than on upland soils.

(4) On the basis of species grown and dates of cutting, it would appear that the quality of marshland hay was lower than that grown on upland.

(5) Yields of hay are directly related to applications of lime, fertilizer and time spent on marshland improvements (mainly drainage).

(6) The small grain acreage reflects limited reseeding and land crowning; an important factor in improving marshland drainage.

LIVESTOCK

Data on livestock for the study farms are shown in Table 7. Some major aspects of livestock production in the area are:

(1) Livestock consists almost entirely of beef and dairy cattle.

(2) There was a tendency to combine beef and dairy cattle operations on dairy and small-size beef farms but not on the larger-sized beef farms.

(3) Size of herd on dairy farms was considerably larger than herd size on beef farms.

The preceding data provide some indication of the factors associated with low income in the Sackville area, as well as steps which could be taken to improve the situation. Before discussing them, however, brief mention should be made of some additional characteristics which have a bearing on past and potential developments in the area.

TABLE 5—LAND USE BY TYPE OF FARM AND KIND OF LAND, 26 FARMS, SACKVILLE AND WESTMORLAND PARISHES, NEW BRUNSWICK, 1965

	Dairy	Beef			All
	6 Farms	10 Farms With Highest Gross Receipts	10 Farms With Lowest Gross Receipts	20 Beef Farms	26 Farms
	acres per farm				
Marshland					
Grain	—	10	4	7	5
Hay	171	106	76	91	110
Other crops	—	—	—	—	—
Pasture	124	93	37	65	78
Unimproved land	3	2	21	11	10
Total marshland	298	211	138	174	203
Upland					
Grain	15	22	11	17	16
Hay	35	55	10	32	33
Other crops	4	1	2	2	2
Pasture	67	78	19	48	53
Unimproved land	69	247	98	173	149
Total upland	190	403	140	272	253
Total farmland	488	614	278	446	456

TABLE 6—CROP YIELDS AND RELATED FACTORS, BY TYPE OF FARM, 26 FARMS IN SACKVILLE AND WESTMORLAND PARISHES, NEW BRUNSWICK, 1965

	Dairy	Beef		All
	6 Farms	10 Farms With Highest Gross Receipts	10 Farms With Lowest Gross Receipts	26 Farms
		bu. per acre		
Yield of grain				
Marshland	—	52	36	47
Upland	46	51	39	47
All land	46	51	38	47
		tons per acre		
Yield of hay				
Marshland	1.02	1.50	1.30	1.27
Upland	1.88	1.51	1.53	1.61
All land	1.16	1.50	1.32	1.35
		per animal unit of cattle		
Acres improved pasture	2.75	3.41	2.30	2.92
		dollars per crop acre		
Cost of lime and fertilizer, 1964	2.49	2.37	1.18	2.12
		pounds per acre		
Annual application of lime on marshland, 1960 to 1964	49	160	96	106
Annual application of fertilizer on marshland, 1960 to 1964	7	17	9	12
		hours per acre		
Labor on marshland improvement, 1964	0.1	0.5	0.5	0.4

CHARACTERISTICS OF THE AREA

Income problems in the Sackville area are more complex than those of other farming areas in the Atlantic region. In addition to the normal factors influencing returns there are added costs of drainage and mechanization and special problems associated with marshland farming. Individual action on these problems, it should be noted, is restricted by the fact that some improvements in a marshland area must be conducted on an integrated basis. Majority agreement among farmers to proceed on these improvements may be difficult to secure. Since marshland areas have little counterpart elsewhere in Canada there are added problems of research and extension.

In view of the past prosperity of the area, its advantages in terms of soil fertility and the improvements resulting from recent reclamation projects, there is frequently a tendency to attribute current problems to historical or sociological factors. While such factors no doubt do have a bearing, emphasis on them tends to obscure the fact that income problems of the area stem more directly from resource organization and management.

Farming in the Sackville area is based on a one-crop economy—hay. Farm income is thus, to a large degree, influenced by efficiency in producing this crop. The basic factor influencing income of farms in the study appears to be the low yields of hay on marshland soils which, as previously noted, averaged 1.27 tons per acre.

Farmers' comments on yields and quality of hay on marshland indicated considerable variation in opinion as to what action is desirable, a fact which presumably impedes organized undertakings. A major point noted was the heavy expenditures involved in drainage, crowning and access roads, and the difficulty of undertaking such improvements on the basis of current returns from farming. In view of the farm-to-farm variation in yields, a major requirement appears to be an improved program of forage production. A related aspect in the management area is the fact that current applications of lime and fertilizer are less than 20 per cent of those generally recommended for forage production in the area.

Assuming that it is desirable to increase average yields and quality to a level more in line with those on the better farms, the question arises as to how hay can best be utilized. Should it be sold as a cash crop or marketed through livestock?

In the early days of marshland development, the sale of hay was undoubtedly the most profitable outlet.

TABLE 7—LIVESTOCK ON 26 FARMS IN SACKVILLE AND WESTMORLAND PARISHES, NEW BRUNSWICK, 1965

	Dairy	Beef			All
	6 Farms	10 Farms With Highest Gross Receipts	10 Farms With Lowest Gross Receipts	20 Beef Farms	26 Farms
			number		
Dairy cows	34	1	4	2	10
Beef cows	7	25	10	17	15
Other cattle	59	45	27	36	41
Swine	3	1	1	1	2
Sheep	—	—	2	1	1
Poultry	13	71	26	48	40

In later years the farmer frequently found himself in the position of receiving a price for hay little higher than that secured by his grandfather while production costs had advanced two to three times. With the decline of the hay market, beef tended to replace sale of hay as the major farm enterprise. In recent years, however, hay prices have improved and returns from this enterprise may now exceed those from beef. Farmers' comments on this point indicated that when the price of hay was $17 per ton, f.o.b. railway car, or higher, cash sale of hay was preferable to marketing it through beef cattle.

Since hay prices in recent years have been above $17 per ton, there appears to be some question about the feasibility of expanding beef production in this area. In recent years there has been some expansion in fluid milk production. In the absence of large urban centres, markets are restricted and provide only a limited outlet for utilization of hay in milk production.

Farmers' comments on future plans indicated a strong attachment to the traditional beef-hay economy of the area and few changes in farm organization were expected. Some farmers who were shipping cream felt that this enterprise provided higher returns than beef but the general opinion was that any movement into dairying would involve added investment and labor without any compensating increase in returns. Five farmers planned to increase their acreage in grain and hay while one would reduce the grain acreage. Six farmers would increase cattle (two in dairy and four in beef) while four others (all in beef) would reduce herd size. Probably the most significant aspect of these comments is the fact that not one of the 26 operators interviewed planned any increase in other enterprises such as vegetable crops, small fruits, hogs, sheep or poultry.

CONCLUSIONS

In view of the farm income problems of the area, it is understandable that operators are hesitant about making changes in their farm programs. On the other hand, it seems obvious that some radical changes must be made if the downward trend of agriculture in the area is to be checked.

In the more successful marshland areas about the Bay of Fundy, farming tends to be more diversified than in the Sackville area. While there are undoubtedly limitations on the expansion of other enterprises, some movement away from high involvement in low income per acre enterprises, such as beef and cash crop hay, appears desirable. Recent changes in Government policy resulting in higher returns for dairy products plus the strong demand for dairy replacements would seem to justify expansion in dairying beyond that involved in local fluid milk production. This applies particularly to the smaller farms where a more intensive type of operation is necessary.

The need for intensifying farming operations also involves examination of the possibilities of other enterprises. On mixed farms, beef is frequently associated with hog production. In recent years there has been a considerable expansion in hogs in adjoining areas. In view of the relatively favorable position that the area has with respect to feed supplies and market outlets, this enterprise would seem to offer possibilities for increased income. Upland areas of many of the farms also provide an opportunity for increased production of vegetable crops and small fruits.

Size of farm acreage which restricts income possibilities on many farms in the Atlantic region is not a major problem in the Sackville area. As previously noted, acreage on the survey farms increased by 67 acres a farm during the past ten years and, in 1965, these farms averaged 456 acres. From most points of view and particularly for an enterprise such as beef,

this trend toward increased size of farm appears very desirable. Future programs on these farms, it is suggested, should place greater emphasis on increased output per acre. An added reason for this is the fact that current programs and particularly those on beef farms do not appear to encourage efficient use of labor.

A comparison of labor efficiency based on man work units for the survey farms indicates that output per worker on dairy farms was 27 per cent higher than on the large beef farms and 42 per cent higher than on the small beef farms. Lower output per man on the smaller beef farms is accounted for by the fact that this group included some older operators and farm work tended to be disrupted by off-farm operations. Large beef farms had an annual labor force of 1.5 man equivalents employed on farming operations. The livestock operation on these farms, consisting of about 70 head of beef cattle a farm, is not large enough to permit efficient use of labor during the winter months.

Dry Skim Milk (Roller Process) Purchase and Sale Order (1966-67)—The Agricultural Products Board was authorized to purchase up to 25 million pounds of roller process dry skim milk at a price not exceeding 17 cents a pound. The Board was to ensure transportation and storage of the dry skim milk held or purchased by it and to sell any of this product for shipment to approved destinations at a price not less than 10 cents a pound. (May 26, 1966)

Ontario Wheat Producers' Marketing Order—Under authority of the Agricultural Products Marketing Act, the Ontario Wheat Producers' Marketing Board was authorized to raise the levy collected on wheat marketed from 15 cents to 19 cents a bushel. The Board was authorized to collect this levy until June 30, 1967. (June 2, 1966)

Ontario Fresh Fruit Growers' Marketing Order—The Ontario Fresh Fruit Growers' Marketing Board replaced the Ontario Peach Growers' Marketing Board. The new Board received authority to regulate the marketing of fresh fruit in interprovincial and export trade. For purposes of the Act "fresh fruit" means peaches, pears, plums, and prunes produced in Ontario other than those used for processing. (June 2, 1966)

Emergency Feed Grain Supply Program for Quebec—This emergency program is designed to relieve a critical feed grain supply situation in Quebec farm areas. It provides for subsidies on the transportation of feed grains from ports in Ontario, thus allowing Quebec buyers to obtain grain from these points at prices comparable with those for supplies from Quebec City and Montreal elevators.

Rates of transportation assistance may vary from $2.00 to $7.00 per ton of grain, depending on the distance from the Ontario port to the final destination. The program is being operated under the Agricultural Products Board Act, pending the establishment of a Canadian Livestock Feed Board. (June 7, 1966)

Feed Grain Purchase and Sale Order, 1966-67—The Agricultural Products Board received authority to purchase feed grains at a price not exceeding $75.00 per ton and to arrange for the storage and transportation of such grains. Authority was also granted the Board to sell feed grains for shipment to approved destinations at a price of not less than $50.00 per ton. (June 7, 1966)

Lamb Price Stabilization Order, 1966-67—The Agricultural Stabilization Board received authority to support the price of Good lambs, or better grade, at $18.80 per hundredweight, live weight, national basis. The prescribed price is approximately 92.2 per cent of the national base price of $20.38 for this grade. This support price will be effective from April 1, 1966 to March 31, 1967. (June 9, 1966)

Wool Price Stabilization Order, 1966-67—The Agricultural Stabilization Board was authorized to support the price of wool on a deficiency payment basis at 60 cents a pound for the 12-month period commencing April 1, 1966. The support price is approximately 138.8 per cent of the base price of 43.21 cents. The Board is to pay to producers, on all grades of wool, except Rejects, marketed through registered grading warehouses the difference between the support price and the average market price per pound (f.o.b. Toronto) for the basic grades Western Range Choice half blood staple and Eastern Domestic quarter blood staple. (June 9, 1966)

Prairie Farm Assistance Regulations (1966)—An Order in Council (P.C. 1966-1060) has revoked the former Schedule to the regulations, and has substituted a new Schedule stipulating blocks of land, defined on a "township" basis, in Manitoba, Saskatchewan, Alberta and the Peace River District of British Columbia, which are eligible for indemnity.

The latest Schedule extends the number of eligible river and settlement lots in Manitoba and the Peace River District of British Columbia. (June 9, 1966)

Canada-U.S.S.R. Trade Agreement—The Minister of Trade and Commerce signed on behalf of Canada a protocol extending the Canada-U.S.S.R. Trade Agreement for a further three-year period. The agreement, which will now expire on April 17, 1969, is subject to renewal by mutual consent. This agreement provides for continued exchange of most-favored-nation treatment between the two countries. (June 20, 1966)

Canadian Wheat Board Contract—The Canadian Wheat Board entered into a contract with Exportkhleb, the Soviet grain trading agency, for the sale of nine million long tons (about 336 million bushels) of Canadian wheat and flour for shipment during the three crop years commencing August 1, 1966. The sale is worth approximately $800 million and will bring Soviet purchases to a total of about 814 million bushels since 1963. (June 20, 1966)

Ontario Tender Fruit Growers' Marketing-for-Processing Order—By an Order in Council (P.C. 1966-1201) which replaces P.C. 1964-304 of February 28, 1964, plums are now specifically defined for the purposes of this Order (along with Bartlett and Kieffer pears, cherries and peaches), and authority has been granted to the Ontario Tender Fruit Growers' Marketing Board to impose a levy, not exceeding $2.00 per ton of plums marketed, to be payable by producers or sellers of this fruit.

No changes have been made in the definitions or the amounts of the levies or charges authorized for other tender fruits coming within the scope of this Order. The Order is effective to December 31, 1966. (June 30, 1966)

PUBLICATIONS

UNITED NATIONS PUBLICATIONS

Available in Canada from the Queen's Printer, Ottawa.

Statistical Year Book, 1965, Statistical Office of the United Nations, Department of Economic and Social Affairs, United Nations, New York, 1966. 17th edition. pp. 747. Price: Clothbound U.S. $15.00; Paperbound U.S. $11.00.

A volume of international statistics on demographic, economic, financial, social, educational and cultural subjects, usually for the year 1948 and nine most recent years. For the first time this book contains a table showing trends in the total volume of production of all kinds of goods and services—gross domestic product measured in constant prices—in the major regions of the world and in the world as a whole excluding the countries with centrally planned economies. The corresponding regional and global changes in per capita gross domestic product are also shown in the table.

OECD PUBLICATIONS

Available in Canada from the Queen's Printer, Ottawa.

Productivity Measurement Review, The Productivity Measurement Advisory Service of the Organization for Economic Co-operation and Development, Paris, November 1965. Number 43. pp. 114. Price: U.S. $1.00.

A review containing two articles and a report on the measurement and comparison of productivity at industry level.

OTHER PUBLICATIONS

An Economic Analysis of the Feed-Freight Assistance Policy, Kerr, T. C., Agricultural Economics Research Council of Canada, Ottawa, Canada, 1966. pp. 128.

A study of the feed-freight assistance policy from inception to present day. The study attempts to answer these questions: (1) what benefits to the national economy and agriculture are likely to have resulted from feed-freight assistance? (2) how does the policy affect the location of the livestock industry? (3) what particular groups are in a position to benefit from the subsidy?

An Economic Analysis of the Manitoulin District, Rodd, R. Stephen, and Michael J. Wiggan, Department of Agricultural Economics in Co-operation with the Committee on Resources Development, Ontario Agricultural College, University of Guelph, Ontario, October 1965. Pub. No. AE/65-66/6. pp. iii + 37.

A background survey of economic determinants and economic results of the current trends of resource development in the Manitoulin District.

An Economic Classification of Farms in Eastern Ontario, Noble, Henry F., Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture, Toronto, Canada, May 1965. pp. 14.

This is a report on a study which involved the development of a system of economic classification of farms that could be applied to the classification of most farms in Eastern Ontario.

An Empirical Study of Interdependence Among Agricultural and Other Sectors of the Canadian Economy, Josling, J. T., and G. I. Trant, Agricultural Economics Research Council of Canada, Ottawa, Canada, June 1966. pp. vii + 67. Price: $2.00.

A report on a study of interdependence between agriculture and the nonagricultural sector. The first part of this publication explains the nature of interdependence and the basic input-output model which was used to express the interrelationships quantitatively. Following this section, the results of the study are included.

Canadian Agriculture and Foreign Economic Policy, Canadian Agricultural Economics Society, Ottawa. pp. iii + 83.

A report of the Tenth Annual Workshop of the Canadian Agricultural Economics Society held June 16 to 18, 1965 in Banff, Alberta.

Dairy Farm Business Summary, McBain, B. J., Production Research Section, Farm Economics Branch, Alberta Department of Agriculture, Edmonton, Alberta, 1966. pp. 9.

A summary of production, costs and earnings on farms in the Edmonton Milk Shed, from May 1, 1964 to April 30, 1965. The Edmonton Milk Shed, one of a number studied under the Milk Production Cost Studies by the Alberta Department of Agriculture, has been under continuous study for 26 years.

Dairy Farm Business Summary, McBain, B. J., Production Research Section, Farm Economics Branch, Alberta Department of Agriculture, Edmonton, Alberta, 1966. pp. 9.

A study of production, costs and earnings on dairy farms in the Calgary Milk Shed for the 12-month period May 1, 1964 to April 30, 1965.

First Plan for Economic Development to 1968, Nova Scotia Voluntary Planning Board, Queen's Printer, Halifax, Nova Scotia, February 1966. pp. 91 + appendices. Price: $3.00.

A plan for economic development for Nova Scotia containing: a report on the evolution of voluntary economic planning in Nova Scotia; a look at the past and present economy; a plan for future growth and the related problems and policies.

New Brunswick Economic Statistics, Published by the Office of the Economic Advisor, Fredericton, New Brunswick, June 1966. No. 7. pp. xvi + 82.

This issue contains a special feature on the Gross Provincial Product of New Brunswick. Economic statistics on population, labour, primary industry, manufacturing, power, construction, trade and finance, transportation and tourism are also included.

Proceedings, National Committee on Forest Land, Information and Technical Services Division, Department of Forestry of Canada, Ottawa, 1966. pp. ii + 148.

A reproduction of papers presented at the meeting of the National Committee on Forest Land held in Ottawa, January 26 and 27, 1966. The Committee is to make recommendations on systems of land classification and on a system of forest land inventory.

Proceedings of the First Newfoundland Conference on Agricultural Co-operation, Extension Service, Memorial University of Newfoundland and the Newfoundland Co-operative Union. pp. 88.

A report on the proceedings of the Newfoundland Conference on Agricultural Co-operation held February 2-4, 1966.

Roughland Pasture Assessment and Improvement Project, Winch, J. E., and L. Collins, The Information and Technical Services Division, Department of Forestry, Ottawa, January 1966. ARDA Condensed Report No. 3. pp. 6.

A progress report outlining the scope and results of a study of approximately 2.3 million acres in Southern Ontario, which is currently permanent pasture with a low carrying capacity.

The Economic Benefits and Costs of Irrigation in the Eastern Irrigation District of Alberta, Rogus, Walter B., and Travis W. Manning, University of Alberta and Herbert W. Grubb, Texas Technological College, Distributed by the Department of Extension, University of Alberta, Edmonton, May 1966. Agricultural Economics Research Bulletin 3, Alberta Irrigation Studies Volume V. pp. iv + 43.

A report based on a three phase study of irrigation in the Eastern Irrigation District of Alberta. One phase of the study dealt with the costs of irrigation; a second with the additional income and costs of agricultural production attributable to irrigation and a third phase with the magnitude and distribution of the benefits and costs of irrigation.

Variation in Farm Income of Farms in Eastern Ontario by Farm Type and Farm Class, Noble, Henry F., Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture, Toronto, Canada, November, 1965. pp. 44.

The report of an ARDA study of selected farms in Eastern Ontario showing variations in farm income, based on 299 farm records during 1963 in a "dairy general" farming area.

Starting Farming in Canada, Garland, S. W., Canada Department of Agriculture, Ottawa, 1966. Pub. 1242. pp. 35.

A publication to provide information for people contemplating starting farming in Canada. It should be useful to people in other countries who are interested in farming in Canada, to Canadian farmers who wish to move from one region to another, and to people in other occupations who are considering starting farming.

STATISTICAL APPENDIX

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1965-66

Commodity, grade and market	1965			1966			
	Average	May	June	Mar.	Apr.	May	June
				dollars per cwt.			
CATTLE (weighted average prices at public stockyards)							
Good slaughter steers							
Toronto	24.00	23.36	25.33	27.12	25.99	25.50	25.11
Winnipeg	23.25	23.35	24.58	25.99	25.65	25.36	24.46
Calgary	22.65	23.33	24.15	25.22	25.10	24.75	24.13
Good feeder steers							
Toronto	22.70	22.84	24.46	28.11	28.00	28.00	28.00
Winnipeg	22.05	22.42	23.33	26.54	26.20	26.25	26.22
Calgary	21.95	21.98	22.91	26.10	26.00	25.65	25.09
Good and choice veal calves							
Toronto	30.50	30.20	29.44	36.55	34.20	35.17	35.03
Winnipeg	29.80	29.60	29.93	34.61	33.42	33.49	36.75
Calgary	23.10	24.60	24.98	29.70	—	—	29.60
HOGS (weighted average prices at public stockyards, Grade A dressed)							
Toronto	33.40	30.46	34.81	36.12	32.90	36.83	38.29
Winnipeg	31.65	28.25	33.00	35.05	31.64	35.54	36.35
Calgary	28.55	25.67	29.45	33.42	29.68	33.19	34.66
LAMBS (weighted average prices at public stockyards, Good lambs)							
Toronto	26.70	33.22	30.86	31.67	30.35	29.77	28.46
Winnipeg	21.30	23.81	26.02	26.00	27.49	28.21	28.41
Calgary	20.75	23.40	24.89	27.22	26.43	26.80	25.69
FLUID MILK (f.o.b. factory)							
Halifax	5.71	5.71	5.71	5.71	6.10	6.10	6.10
Montreal	5.10	5.10	5.10	5.35	5.35	5.35	5.35
Toronto	5.26	5.26	5.26	5.29	5.29	5.29	5.29
Winnipeg	5.20	5.20	5.20	5.20	5.20	5.20	5.20
Vancouver	6.19	6.03	6.11	6.47	6.53	6.54	6.56
MANUFACTURING MILK (average farm value)							
Nova Scotia	2.74	2.66	2.64	2.68	2.64	2.67	—
New Brunswick	3.01	2.92	3.00	3.10	3.08	3.11	—
Quebec	3.05	2.96	2.96	3.32	2.89	2.94	—
Ontario	2.99	2.86	2.85	3.19	3.10	3.12	—
British Columbia	3.03	2.90	3.00	3.14	3.28	3.24	—
				cents per lb.			
BUTTERFAT (for butter, average farm value)							
Prince Edward Island	69.4	69.0	69.0	73.5	65.0	64.0	—
Quebec	84.7	83.0	83.0	91.3	82.3	82.3	—
Ontario	73.8	72.7	73.3	74.8	65.8	71.6	—
Saskatchewan	65.3	65.5	64.5	68.4	59.8	58.8	—
British Columbia	68.9	69.5	69.5	70.8	80.5	80.5	—
				cents per doz.			
EGGS (average paying prices at registered grading stations, Grade A Large)							
Halifax	36.3	27.8	27.8	42.2	46.5	34.8	33.7
St. Anselme	35.3	29.1	27.9	40.9	49.0	42.4	35.6
London	35.1	28.9	28.8	40.5	46.2	40.6	36.5
Winnipeg	30.6	27.2	25.2	36.9	38.8	32.1	31.6
Vancouver	36.4	33.0	31.0	41.2	39.2	35.6	33.0
				cents per lb. live			
BROILERS (average prices paid to growers, No. 1 grade, chicken under 5 lbs.)							
Toronto	18.8	17.2	18.6	21.2	21.1	20.5	20.5
Edmonton	20.5	21.0	21.0	22.2	22.5	22.5	22.5
TURKEYS (average prices paid to growers, No. 1 grade, 12-20 lbs.)							
London	25.4	24.0	24.0	24.6	24.5	24.5	24.2
Edmonton	24.3	23.1	23.0	26.5	26.5	—	—

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1965-66 (Continued)

Commodity, grade and market	1964–65 Crop Year Average	1965		1966			
		May	June	Mar.	Apr.	May	June
	dollars per cwt.						
POTATOES (Can. No. 1 Table, average prices to growers)							
Prince Edward Island	2.97	4.62	4.83	3.42	3.87	3.67	2.03
New Brunswick	2.90	4.72	5.10	2.32	2.43	3.13	1.60
Southwestern Ontario	2.82	—	—	2.73	3.40	3.77	—
	dollars per bu.						
EASTERN SMALL GRAINS							
Oats (Ont. No. 2 White, f.o.b. shipping points)	0.76	0.78	0.78	0.78	0.78	0.78	0.78
Barley (Ont., good malting, f.o.b. shipping points)	1.43	1.45	1.44	1.45	1.45	1.45	1.45
Corn (Ont. No. 2 Yellow, f.o.b. Chatham, 15% moisture, in carlots)	1.35	1.48	1.51	1.42	1.42	1.43	1.48
Soybeans (Ont. No. 2, f.o.b. Chatham)	3.10⅜	3.02⅜	3.11	2.97	3.07¾	3.21⅝	3.48½
	cents and eights per bu.						
WESTERN SMALL GRAINS (basis in store Fort William/Port Arthur, less freight and elevator handling charges)							
Red Spring Wheat (No. 2 Nor.)							
Winnipeg	182/3	176/6	177/2	186/3	186/6	187/4	190/4
Regina and Edmonton	178/7	173/2	174	182/7	183/2	184	187
Durum Wheat (No. 1 C.W.A.D.)							
Winnipeg	184/1	179/6	180/2	189/3	190/1	190/7	194/3
Regina and Edmonton	180/5	176/2	176/6	185/7	186/5	187/3	190/7
Feed Wheat							
Winnipeg	160/3	154/6	155/2	162/4	163/6	164/4	167/3
Regina and Edmonton	156/7	151/2	151/6	159	160/2	161	163/7
Oats (No. 1 feed)							
Winnipeg	69/4	70/2	70/5	79/5	78/6	78	75/7
Regina	67/4	68/2	68/5	77/5	76/3	76	73/7
Edmonton	65/4	66/2	66/5	75/5	74/3	74	71/7
Barley (No. 1 feed)							
Winnipeg	110/3	113/2	112/5	117/5	115/4	115/4	108/5
Regina	107/4	110/3	109/6	114/6	112/5	112/5	105/6
Edmonton	104/5	107/4	106/7	111/7	109/6	109/6	102/7
Rye (No. 2 C.W.)							
Winnipeg	117/5	112/1	112	118/7	118/4	108/6	115/4
Regina	114/2	108/6	108/5	115/3	115	105/3	112/1
Edmonton	111	105/4	105/3	112	111/5	102/1	108/7
Flaxseed (No. 1 C.W.)							
Winnipeg	311/5	315/7	310/4	285	283/4	284/1	269/1
Regina	308/3	312/5	307/2	281/5	280/1	280/7	265/7
Edmonton	304/7	309/1	303/6	278/3	276/7	277/3	262/3

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CANADIAN FARM ECONOMICS

COMMODITY REVIEW

GRAINS AND FEED

The D.B.S. August 15 survey indicates that wheat production in Canada in 1966 will reach an all-time record, higher than the previous record of 703 million bushels in 1963. With at least 30.3 million acres seeded, a crop of some 800 million bushels will be harvested. Barley production also seems likely to be higher than last year but oats could be lower. This picture prevails in most areas of Canada where all yields but mixed grains are higher than last year and frequently above average.

A few years ago this exceptional volume of grain would have created many difficulties for the Canadian grain handling system. But in mid-August the Canadian Wheat Board announced open-quotas for all delivery points. These open-quotas were designed to fill the pipeline so as to keep exports flowing at a time when producers were fully occupied with harvesting rather than delivering. Export clearances of wheat and flour in the year ended July 31, 1966 reached a high of 581 million bushels, and oats, barley and rye totaled about 67 million bushels. In addition, domestic consumption of wheat was around 150 million bushels.

World demand for wheat continues very strong and during the 1966-67 season Canada can expect to export between 550 and 600 million bushels. Long-term agreements with USSR, China and Eastern Europe provide large markets; Western Europe and especially Japan continue to buy steadily while the demand for food as aid is also strong. High volume exports added to domestic use should provide outlets during the year for 700 to 750 million bushels of wheat. Thus a record production seems likely to be readily absorbed internally or for export leaving only 100 million bushels to be added to carryover stocks which on July 31, 1966 were at 423 million bushels—the second lowest carryover since the early 1950's.

Since July last year, prices of Manitoba wheat have risen steadily and at $2.09 bu. have been moving closer to the International Wheat Agreement maximum of $2.18 bu. (or U.S. $2.02½ bu.). Prices seem likely to remain at this higher level as world demand continues strong. In the U.S.A., where July 1 carryover stocks were exceptionally small, production is lower than last year but 1966-67 exports should be large. These smaller supplies for 1966-67 have raised internal prices as well as those for export. Thus the spread between Canadian Manitoba No. 1 and U.S. Hard Winter, which in 1965 and early 1966 widened to nearly double previous levels, has narrowed again very considerably. This unusually wide spread delayed the filling of the U.S. import quota of 795,000 bushels of Canadian wheat until mid-August when the price spread had narrowed. Normally, the full quota is taken up on May 29, the first day of the quota year. In addition to the rise in the price of the top grade, the spread between the Canadian grades has increased with Manitoba No. 4 only 14 cents under No. 1 compared with 17 cents only six months ago. In recent months, prices of other grains have also moved up to levels higher than last year.

G. A. Hiscocks
and J. W. Channon

FRUITS AND VEGETABLES

Potatoes

Supplies of potatoes in Canada during the first half of 1966 were down slightly from a year earlier but United States supplies were relatively large. Because of this situation, additional imports from the United States were available for the Canadian market to meet domestic demand. Prices to growers during the January-May period averaged $1.84 a bushel in Prince Edward Island, or 32 cents below the level a year earlier but still above the 1961-65 average price of $1.08 per bushel for the same time of year.

The quantity of potatoes available for domestic use increased rapidly as the 1966 harvesting of new potatoes gained momentum. Greater marketings exerted a downward pressure on prices although these recovered during the latter part of the summer. For example, the wholesale price of new potatoes (75 lb.) on the Toronto market for the week ended July 29 was $2.45 or 37 cents lower than a year earlier, whereas prices for similar grades during the week ended August 26 were 10 cents higher than the same period last year. The September forecast for the 1966 potato crop in Canada indicated a production figure of 50.3 million

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cwt. If this is realized, it will represent the highest production obtained during the past decade. The increased output is a reflection of two years of firm potato prices. An increase of about nine per cent is expected in the Maritimes and Western Canada, and the crop in Central Canada may reach a figure of seven per cent above that of a year ago.

The U.S. early summer crop of potatoes was above the year-earlier level; however, prospects are that the fall crop may be about six per cent less than last year but still six per cent above average. The decline in the U.S. fall potato crop appears to be sufficient to offset the increase expected in Canada so that the total North American fall crop could be about 251 million cwt. in 1966 or 3.4 per cent less than last year. However, this would still be 10 million bushels or four per cent more than the 1961-65 average.

The demand for potatoes by the processing sector of the potato market may not be quite as strong as in 1965-66, when freezers and dehydrators were rebuilding inventories, and the supply for fresh use may prove to be somewhat larger than last year.

Apples

The first estimate placed the 1966 apple crop at about 19.3 million bushels or approximately three million bushels less than last year. The 1955-64 and 1961-64 average crops were 17.4 and 20.0 million bushels respectively. Some increase is in prospect for the British Columbia crop with Ontario and New Brunswick remaining about the same as a year earlier and Nova Scotia producing slightly less. On first indications, it appears that the Quebec crop will be far short of last year's record yield.

A smaller crop is forecast for the United States, England and Wales. The larger crops reported for some European countries do not appear to be of sufficient magnitude to offset the decline expected in Canada, Britain and the United States. Stocks of apple juice, apple sauce and frozen apples held by canners at June 1, 1966 were substantially above those a year earlier. On the other hand, stocks of solid pack apples were down by 1.2 million pounds. The larger total stocks of processed apples may reduce the pack this year, leaving more of the reduced crop for fresh use.

The demand for Canadian apples in the United States and British markets is expected to be strong because of the prospects of smaller crops in these countries. However, competition can be anticipated from other countries, for example, Italy is a main supplier of the British market and has a larger crop of apples to market this year.

Other Fruits and Vegetables

Declines expected in the production of apples and sour cherries are offset by the gains which have occurred in other tree fruit crops and for processed fruits for which there is some substitution-demand. Sour cherry production, primarily because of freeze damage in the Niagara peninsula, is expected to be curtailed sharply. The 1965 tree fruit production in British Columbia was severely curtailed by winter kill; however, this year it is showing signs of recovery and the output of tree fruit crops is expected to be equal or near to the 1961-65 average.

According to an objective estimate conducted in July in the Niagara District of Ontario, the production of Jubilees, Vees and Elberta peaches might be up about 36 per cent over 1965. However, the volume of the peach crop depends upon the average size of fruit at picking time, as well as the number. Final estimates of yields depend upon subsequent developments such as sizing, which in turn depends, in large measure, on weather conditions.

Tomatoes

Tomato acreage for processing in Ontario in 1966 is expected to be lower than a year earlier. Because of poor weather conditions, there is every indication that this year's tomato crop was well below processor expectations and requirements. Recent D.B.S. statistics show that Ontario growers produce over 90 per cent of the Canadian crop of tomatoes.

D. M. MacKay

DAIRY PRODUCTS

Milk Production

Milk production continues to decline. In July 1966, output was 3.1 per cent below a year ago. During the first seven months of 1966, milk production dropped 1.4 per cent from the corresponding period in 1965.

A record low was revealed for the size of the national dairy herd in 1966. During the past 46 years, the June 1 figure for milk cows has never been as low as the 2,799,000 head which were estimated to be on farms this year. This figure was three per cent less than that for 1965, and six per cent below the figure for 1961, the last year in which an increase in the number of milk cows occurred. The number of heifers in 1966 was eight per cent below 1965 and 21 per cent less than 1961. Regionally, the reduction in cow numbers was small in Central Canada, one per cent, but averaged six per cent for the Maritime provinces and seven per cent for the Prairies. As a result of culling low-producing cows, the average daily production per cow rose about five per cent, which was not quite enough to offset the reduction in cow numbers in all

provinces, except Quebec, Nova Scotia and British Columbia. The net result of these developments has been a further concentration of Canadian milk production in the two central provinces. In the first half of 1966, Ontario and Quebec accounted for 71 per cent of the milk output, one per cent above the corresponding period in 1965.

Butter

Creamery butter consumption up to the end of July stood at approximately 196 million pounds, about four million pounds lower than a year earlier, which points to a reduction in the per caput consumption of butter of about four per cent. Compared with a year ago, prices to date have averaged about eight per cent higher. Based on this relationship between price changes and consumption response, total disappearance of creamery butter in 1966 may be estimated at 348 million pounds, about two per cent lower than in 1965. Production of creamery butter to the end of July was two per cent below a year ago, which includes a seven per cent drop in July output. Current trends indicate that the expected decrease in consumption of butter will be matched by the reduction in output. The pattern of seasonal changes in butter stocks will be similar to that of last year, with the level of stocks remaining about 20 per cent below a year ago.

Cheddar Cheese

Despite a decline in overall milk production, cheddar cheese output increased six per cent during the first seven months of 1966. There was a considerable diversion of milk from butter into cheese making. Approximately half of the reduction in the butter make can be accounted for by the rise which occurred in cheddar cheese production. The diversion of milk was caused by this year's record cheese factory prices of 42 to 43 cents per pound in Ontario and Quebec.

To date, consumption of cheddar cheese has shown little change from last year's record levels. It is likely that this consumption level will be maintained through the balance of the current year.

Fluid Milk Consumption

Consumption of fluid milk increased about one per cent during the first half of 1966. Regionally, marketings vary considerably. A steady growth pattern is apparent for British Columbia, Alberta, New Brunswick and Ontario. In the remaining provinces, sales are either unchanged or very slightly up. Quebec, however, registered a decline. It seems likely that total fluid sales in 1966 will not exceed last year's figure of 5.2 billion pounds.

Hans J. Mestern

EGGS AND POULTRY

Eggs

Egg production in Canada is increasing in response to the stronger egg markets that have prevailed since August, 1965. Pullet chick placements for egg production began rising above year-earlier levels in midsummer of 1965 and have continued to increase along with the higher trend in egg prices. However, the re-building of laying flocks has not been excessive, and egg price prospects for the greater part of 1967 appear reasonably good. By January, 1967 pullet numbers in market egg flocks in Canada will total about 23.3 million birds compared with 22 million a year earlier, up about six per cent. An important factor influencing the level of egg production in 1967 will be the average rate of lay of current replacements. Production per bird, which has been rising steadily in recent years, averaged 200 eggs in 1965, and will be up a few eggs per layer in 1967.

The monthly distribution of pullet chick placements this year has been more regular than at any time in the past. Hatchery production was nine per cent smaller in April and May, the peak months, but was larger during the other months. There are two main reasons for the trend toward a more even distribution of hatchery production, and these reasons are partly related. First, confinement rearing of pullets during their growing phase has increased in relation to the numbers of range-grown pullets. Some hatcheries and some producers have specialized in the production and sale of started or of ready-to-lay pullets. Most of these birds are raised entirely under cover, on a year-round basis. Second, spring orders for small lots of chicks by farm flock owners have become relatively less important. The generally narrow margin between egg prices and costs has resulted in small flock production being unremunerative to farmers with better labor alternatives. The high egg price levels of the past year did not induce many diversified farmers back into egg production, and most of the expansion that has occurred in recent months appears to be the result of either new or enlarged specialty egg plants.

Broilers

Broiler chicken producers have benefited from reduced supplies and higher prices of red meats during the past 18 months. Since August, 1965 when the drop in hog production became apparent, live broiler markets in Canada have averaged one to four cents a pound more than a year earlier. The price margin over the previous year narrowed to one cent in August, 1966 with Live No. 1 chicken quoted at 20½ cents at London and Toronto and 21½ cents at Montreal. The higher and steady trend of broiler

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prices has been maintained in spite of a 13 per cent marketing increase during the first seven months of 1966. Most of this year's expansion in broiler production has occurred throughout Western Canada, Quebec and the Maritimes with increases averaging about 17 per cent compared with Ontario's six per cent rise.

Broiler chick hatcheries have had to supplement the domestic supply of hatching eggs with much larger imports of hatching eggs from the United States during the past year. However, broiler supply flocks in Canada have also been enlarged, and breeder numbers at August 1 totaled about 1,247,000, up nine per cent from the same date a year earlier. The expansion of broiler supply flocks has occurred fairly uniformly across Canada. In addition, pullet chicks placed for supply flock replacements last spring and summer numbered 1,471,000, about five per cent more than in the previous year. Most of the enlargement of supply flock numbers is taking place in Quebec and Ontario in response to the large deficit that exists in Quebec's production of both hatching eggs and broiler chicks.

The expansion in broiler supply flocks indicates that broiler production in 1967 will continue its upward trend but at a slower rate. Until the trends in red meat production become more certain than at present, broiler producers will likely proceed cautiously with expansion plans for 1967.

Turkeys

Turkey production in 1966 has expanded at about the same rate as has broiler chicken output. Turkey production in 1966 will total about 210 million pounds, eviscerated basis, about 13 per cent more than in 1965. In contrast to the fairly uniform growth throughout Canada of broiler chicken production, the expansion in turkey output has been confined to Eastern Canada and British Columbia. Spring placements of Broad White and Bronze poults in the Prairie region were down from the previous year by about three per cent. Most of the reduction in the Prairie Provinces was due to a proportionately greater decline in the number of turkey producers, although fewer producers are raising more birds per farm each year. In the Prairies, most of the turkeys are grown on range for the fall and winter holiday markets. Broiler turkey production is still relatively unimportant in the Prairies.

In Eastern Canada and British Columbia, confinement growing of the so-called broiler turkey on a year-round basis has been expanding rapidly. Broiler production has increased about 30 per cent this year compared with a 16 per cent rise in range production of heavy weight birds in those areas.

Turkey prices at London, Ontario, in late August were slightly under those a year earlier and appear adjusted to this year's record turkey crop. In contrast to last year, when prices strengthened during the fall period by two cents on broilers and heavy toms and by five cents on medium weight hens, prices this fall will likely increase much less, if at all.

Broiler turkey output will continue to rise in 1967 because more breeders are available in supply flocks. The increase in breeding flocks is confined to Ontario which accounts for 100,000 breeders, or for 85 per cent of the national total of broiler breeders.

J. D. F. Kidd

BROILER HATCHING EGGS

Hatching egg production for the broiler segment of the poultry industry has increased very rapidly in Canada within the past 10 years. However, the expansion in hatching egg production has lagged somewhat behind the fast growth in hatchery production of broiler chicks. Chicks hatched in registered hatcheries for broiler production in 1965 numbered 135 million compared with 79 million in 1960 and only 34 million in 1956. This represents a fourfold increase during the past 10 years. The upward trend is continuing this year as the broiler hatch to August 20 totaled 100 million chicks, 12 million more than in the same period last year.

Broiler hatching egg production in Canada in 1965 was estimated at 175 million eggs, or the equivalent of about 485,000 cases. The total placement of eggs in registered hatcheries last year was about 520,000 cases, seven per cent in excess of domestic production. In spite of the rapid growth in output from broiler supply flocks in Canada in recent years, registered hatcheries have had to import heavily at times from the United States in order to fill their orders for broiler chicks. Most of the import movement consists of commercial hatching eggs rather than chicks. In 1965, imports of commercial hatching eggs and chicks totaled 10.6 million and 5.2 million respectively. Most of these were consigned to hatcheries in Quebec, and to a much lesser extent, to Ontario and to New Brunswick.

Due to the sharp increase in broiler production throughout Canada this year, hatching egg imports for commercial broiler production in the first half of 1966 rose to 9 million from 5 million in the same months last year. Hatcheries in Western Canada, which in 1965 depended almost exclusively upon their own supply flocks, imported 1.3 million commercial eggs up to the end of last June. However, the bulk of the imports were to hatcheries in Eastern Canada, particularly to Quebec and the Maritimes where the

rate of industry expansion has exceeded that in Ontario in recent months. Broiler chick imports, which are comparatively small in relation to hatching egg imports, were also up sharply in the first six months of 1966.

Last year in Canada, about 186 million eggs were set in registered hatcheries for broiler chick production. Hatcheries in Ontario and Quebec accounted for 138 million placements, or 74 per cent of the national total. The Maritimes accounted for four per cent, the Prairies for 14 per cent and British Columbia for eight per cent of broiler egg placements in 1965.

An important characteristic of the demand for broiler hatching eggs is the relative stability in the hatcheries' weekly requirements. In 1965, broiler chick output in registered hatcheries in Canada reached a total of 71 million chicks during the April to September period compared with 32 million chicks during both the first and last quarters of the year. This represented an average requirement of about 10,700 cases of hatching eggs per week from March through August of last year. Broiler hatchery production in 1966 is up by about 12 per cent from last year.

The number of breeders in broiler supply flocks in Canada by province, is reported monthly by the Poultry Division of the Canada Department of Agriculture. In March, 1966, the cumulative total of breeders in supply flocks throughout Canada was 1,435,000, up seven per cent from the same date a year earlier. Breeder numbers reach a peak during the spring months prior to the hatcheries' heavy production period, and they decline gradually in both numbers and production during the summer and fall. The seasonal changes in flock numbers coincide quite closely with the seasonal variation in the level of hatchery production so that most of the flock production is used for hatching purposes with the surplus being diverted to the fresh egg market. The Poultry Division also reports the number of broiler pullet placements from registered hatcheries and imports, by province, on a weekly basis and as a cumulative total for the prior 26-week period.

The provincial distribution of broiler supply flocks is such that most provinces, except Quebec and New Brunswick, are self-sufficient in broiler hatching eggs. Supply flocks in Ontario and Prince Edward Island provide a part of the requirements of hatcheries in Quebec and New Brunswick. However, Quebec is becoming more self-sufficient in broiler hatching egg production as pullet placements for broiler flocks were up sharply during the first half of 1966 in that province.

The inter-provincial movement of broiler chicken hatching eggs in 1965 totalled 5.5 million eggs, about three per cent of the total placements in registered hatcheries. Producers in Ontario, Prince Edward Island and Saskatchewan were the most important shippers, and the bulk of the movement was to hatcheries in neighbouring provinces. Hatcheries in Quebec and New Brunswick were the main buyers of broiler eggs from outside their own province.

Most of the replacements for supply flocks in 1965 were imported from the United States as either breeder eggs or chicks. Practically all of the 2.7 million breeder hatching egg imports in 1965 went to registered hatcheries in Quebec while the 1.5 million breeder chick imports were placed across Canada roughly according to the relative importance of broiler production in each province. Imports of breeder stock during the first half of 1966 were down moderately from the same period last year.

The production and distribution of replacement stock for broiler supply flocks is controlled in North America by relatively few, large breeder organizations. Most of the companies were founded in the United States, and extended their business to Canada as well as to other countries. Although the U.S. breeders pioneered the development of many high performing hybrid crosses, Ontario breeders have developed broiler strains of comparable merit in recent years. The Canadian companies have also extended their business to the United States and to other countries.

In order to distribute their stock, the breeder organizations usually enter into franchise arrangements with local hatcheries. They together supply the replacement stock for the broiler hatchery flocks. The supply flocks may be owned and operated by the hatchery or they may be a separate farm operation.

While there are no official estimates of the average egg production of broiler supply flocks, broiler pullets are much less productive than market egg strains. The available data indicate that average egg production per pullet was about 131 eggs in Canada last year.

Hatchability of all eggs placed in registered hatcheries in Canada last year was 72.8 per cent. The percentage was slightly above the national average in British Columbia, Quebec and the Maritimes, but was moderately lower, at only 66 per cent, in hatcheries in the Prairie Provinces. In Ontario, hatchability was identical with the national average.

Flock production and hatchability are two of the most important physical factors determining income from hatching egg production. Breeders have tended to focus selection upon meatiness, growth, and feed conversion to the detriment of the reproductive traits. The leading Canadian female strains have been selected for improved reproduction and a more balanced, overall performance.

The demand for broiler hatching eggs throughout Canada will likely continue to expand quite rapidly.

Hatchery output of broiler chicks in Canada last year totalled 135 million chicks. Hatcheries in Ontario and Quebec produced 101 million chicks, three-quarters of the Canadian total. Broiler chick production in the Maritimes accounted for about five per cent, the Prairies for 12 per cent and British Columbia for eight per cent of the total of broiler chick output in registered hatcheries last year.

Broiler hatchery production to August 21, 1966 has totalled 100 million chicks, 13 per cent more than in the same period last year. Expansion of broiler production in Western Canada and the Maritimes has been much faster than in Central Canada in 1966. This probably reflects the greater market potential for broilers in those areas compared with Central Canada due to the relative newness of the industry outside Ontario and Quebec. Although the prospects for continuing industry growth still exceed population growth potentials, it appears likely that expansion will proceed more slowly in future years than has occurred in 1966.

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TABLE 1—BROILER CHICKEN HATCHING EGG PRODUCTION, TRADE AND PLACEMENTS BY REGISTERED HATCHERIES IN CANADA, BY PROVINCE, 1965

	Egg Placements	Exports		Imports			Net Trade	Hatching Egg Production
					Foreign			
		Domestic	Foreign	Domestic	Commercial	Breeding		
	thousands							
British Columbia	15,157	389	1,354	771	161	1	810	15,967
Alberta	14,854	217	170	449	27	—	−89	14,765
Saskatchewan	2,595	946	—	229	—	—	717	3,312
Manitoba	7,707	362	—	800	80	—	−518	7,189
Ontario	79,102	2,076	371	217	1,004	170	1,056	80,158
Quebec	58,701	—	—	1,454	8,674	2,496	−12,623	46,078
Atlantic Provinces	8,134	1,512	—	1,582	705	5	−780	7,354
Canada	186,250	5,502	1,895	5,502	10,651	2,672	−11,427	174,823

TABLE 2—BROILER CHICK HATCH, TRADE AND PLACEMENTS, BY REGISTERED HATCHERIES IN CANADA, BY PROVINCE, 1965

	Broiler Chick Hatch	Exports		Imports			Net Trade	Broiler Chick Placements
					Foreign			
		Domestic	Foreign	Domestic	Commercial	Breeding		
	thousands							
British Columbia	11,105	86	—	74	27	154	−169	11,231
Alberta	9,618	265	—	247	19	191	−192	9,625
Saskatchewan	1,622	42	—	552	—	27	−537	2,118
Manitoba	5,205	366	11	105	38	98	136	4,967
Ontario	57,420	3,582	707	288	441	540	3,020	58,022
Quebec	43,971	609	80	3,164	4,614	460	−7,549	47,218
Atlantic Provinces	6,197	637	—	1,157	93	49	−662	6,780
Canada	135,138	5,587	798	5,587	5,232	1,519	−5,953	134,961[a]

[a]This does not balance with the total hatch plus net imports because:

(1) 469 thousand broiler chicks were destroyed.

(2) 282 thousand cockerels from egg production matings were sold as broilers.

(3) a large portion of the commercial chick imports into Quebec are consigned for roaster production rather than for broilers.

(4) pullet replacements for broiler supply flocks are not included in broiler placements.

FARM CASH INCOME

Cash receipts of Canadian farmers from the sale of farm products increased to $3,804 million in 1965, about nine per cent more than in 1964. Canadian farm cash income has risen steadily since 1959 when it was estimated by the Dominion Bureau of Statistics at $2,776 million. The upward trend in farm cash receipts continued into 1966 when the estimate for the first quarter of 1966, at $1,035 million, appreciably exceeded the $984 million and $866 million earned in the same periods of 1965 and 1964 respectively.

Livestock and Livestock Products—Most of the rise in cash income that occurred in 1965 was due to higher prices and to slightly larger marketings of livestock and livestock products. Farm cash receipts from livestock and products in Canada last year totaled $2,101 million compared with $1,855 million in 1964 and $1,820 million in 1963. As a result of increases in both cattle prices and marketings, income from cattle and calves moved sharply upward from $640 million in 1964 to $773 million in 1965, a rise of just over 20 per cent. A very sharp advance in hog prices last year more than offset the small drop in marketings and raised cash income from hog sales to $379 million, nearly 18 per cent above the total of the previous year.

Poultry producers realized $337 million in 1965, about 10 per cent more than in the previous year. Greater returns from poultry meat reflected both increased marketings and higher prices. Egg markets strengthened greatly in the latter part of 1965, and producers earned more money from a slightly smaller output than in 1964.

Cash income from dairying in 1965 at $556 million was up moderately from the $534 million received in 1964 and $510 million earned in 1963. In addition to returns from market sales of milk, producers of manufacturing milk received federal supplementary payments amounting to $17 million.

The rise in farm cash income from livestock and livestock product sales continued at an accelerated pace during the first quarter of 1966. Farm cash receipts from marketings of livestock and products rose to $539 million, 27 per cent more than in the same quarter of last year. Higher prices of cattle, hogs, poultry meats, eggs and milk accounted for most of the income advance in the livestock sector. Only cattle and poultry meat marketings were up in volume from the same period of 1965 while marketings of hogs, eggs and milk were smaller than a year ago.

Crops—In contrast to the sharp rise in cash income from livestock and livestock products in recent months, total farm income from the sale of cash crops in 1965 and early 1966 has remained fairly constant compared with year-earlier levels. Most of the farm income from crop sales in the first nine months of 1965 was from the marketings of crops produced in 1964 and 1963, while cash income since that time reflects crop production levels in 1965 to a much greater extent. The operation of the pools for western wheat, oats and barley by the Canadian Wheat Board delays the final returns for the Prairie grain crops until most of it has been sold, which is usually more than a year after the actual harvest and delivery by the farmer to his country elevator.

In 1965, farm income from the sale of cash crops in Canada totaled $1,635 million compared with $1,600 million in 1964 and $1,341 million in 1963. Deliveries of wheat in 1965 from both the 1964 and 1965 crops, and Canadian Wheat Board final payments on the 1963 pool, grossed $931 million to grain growers last year, accounting for 57 per cent of total Canadian farm income from the sale of cash crops. Although total receipts from the initial payments on 1965 wheat marketings were down, a larger final payment on the 1963 crop virtually offset the reduced income from smaller wheat marketings last year.

Cash receipts from barley in 1965 rose to $99 million from $86 million in 1964 as a result of larger deliveries, higher initial prices and larger participation payments on the 1963 crop. Income from oats dropped to $36 million, mostly due to reduced returns from the small 1963 oat pool. Receipts from the marketing of rye increased slightly to $9.4 million but income from flaxseed dropped sharply to $47.3 million in 1965 from $60.9 million the previous year. Although still a relatively minor crop in the Prairie Provinces, farmers' cash income from rapeseed rose in 1965 to $26.8 million from $18.0 million in 1964 and $11.7 million in 1963.

As a result of much higher price levels following the smaller 1964 U.S. crop, farm cash income from potato sales in 1965 in Canada advanced to $104.3 million, 60 per cent more than the $64.8 million received in the preceding year. Ontario producers of soybeans and tobacco received less income from these crops in 1965 as receipts from soybean marketings declined to $14.3 million while returns from tobacco, Ontario's leading cash crop, were $84.8 million. Canadian fruit and vegetable growers earned $63.6 million from fruit, down moderately from a year earlier, and $81.8 million from vegetable sales, again up slightly from the previous year. Most of the drop in income from fruit was incurred by tree fruit growers in the Okanagan Valley of British Columbia, where the 1965 crops were badly damaged by a severe cold spell in December 1964.

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During the first quarter of 1966, farm receipts from cash crops in Canada totaled $502 million, down almost seven per cent from the same period in 1965. The decline is largely due to lower Canadian Wheat Board participation payments on the below-normal grain harvests in 1964. Although returns from coarse grains did not differ greatly from a year earlier, farm income from rye, flaxseed and rapeseed rose as a result of greater marketings and improved prices. Larger tobacco marketings and much higher prices raised returns from the 1965 crop, but potato growers received less as prices returned to a lower level than they had been a year earlier.

Trends in Cash Receipts—The steady increases that have taken place in Canadian farm cash income have occurred uniformly across the country and the regional distribution of farm cash income in Canada in 1965 has changed very little in the last 16 years (Table 1). In the Prairie region in 1965, the combined value of grain and livestock marketings at $1,881 million accounted for about one half of the value of Canadian farm cash income, as has been the pattern in recent years. Cash income from the sale of "cash crops" totaled $1,177 million, or about 63 per cent of total farm cash income in the Prairie region in 1965.

Ontario farmers in 1965 sold farm products of greater total value than in any other province of Canada. Farm cash income for that province totaled $1,098 million, and comprised about 29 per cent of the Canadian total. In contrast with the situation in the Prairies, where cash grains are predominant, Ontario livestock and livestock product sales provided $795 million, or 72 per cent of total Ontario cash farm income in 1965. Specialty field crops such as soybeans and tobacco and fruit and vegetables comprise most of the cash income from crops in Ontario.

In Quebec, farm cash income in 1965 totaled $513 million, or 13.5 per cent of the Canadian total. Livestock and livestock product sales, of which milk is the predominant component, totaled $389 million, about 85 per cent of total Quebec farm cash income.

Farmers in the Maritime Provinces and British Columbia each contribute about four per cent of the value of Canadian farm product sales. Potatoes, tree fruits, livestock and products are the main sources of farm cash income in the Maritimes. In British Columbia, fruit and vegetable marketings and livestock and product sales account for most of the cash income of farmers.

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TABLE 1—CASH RECEIPTS FROM FARMING OPERATIONS (INCLUDES SUPPLEMENTARY PAYMENTS), CANADA AND REGIONS, 1950-1965

Yearly Average	Maritimes	Quebec	Ontario	Prairies	British Columbia	Canada
			thousand dollars			
1950–54	108,265	356,031	716,596	1,249,815	105,351	2,536,057
1955–59	109,624	384,853	776,358	1,195,233	116,916	2,582,984
1960–64	115,411	435,010	933,435	1,497,417	142,469	3,123,741
1965	150,940	513,319	1,097,756	1,881,464	160,616	3,804,095
			per cent distribution			
1950–54	4.3	14.0	28.2	49.3	4.2	100
1955–59	4.2	14.9	30.1	46.3	4.5	100
1960–64	3.7	13.9	29.9	47.9	4.6	100
1965	4.0	13.5	28.9	49.4	4.2	100

Source: Dominion Bureau of Statistics, *Farm Cash Receipts*, Cat. No. 21-001, Farm Finance Section, Agriculture Division, Vol. 26, No. 4, and Vol. 27, No. 1, July 1966.

FERTILIZER PRACTICES IN SELECTED AREAS OF MANITOBA

W. M. Bayda and I. F. Lipnowski

The expanding use of fertilizer has been an important technological development in Manitoba agriculture. The consumption of fertilizers increased above fivefold from 1955 to 1965. But even though there has been such a substantial increase in the use of fertilizer during this period, there is still a wide gap between the recommended and the actual total usage by farmers. This article focuses attention on this gap by describing fertilizer practices in three selected areas of Manitoba. Specifically, it will deal with:

(1) the kind and amount of fertilizer used;
(2) the average rate of fertilizer application per fertilized acre;
(3) the minimum and maximum recommended rates of application of plant nutrients for the various crops grown; and
(4) the average current expenditures for fertilizers per fertilized acre.

Sources of Data

Data were obtained over a period of four years by interviews with farmers in three selected areas of Manitoba as part of a continuing study of farm organization and management conducted by the Economics Branch. The first study area was the Red River Valley where 75 randomly selected farms were visited in 1962. This area included 10 townships in the Rural Municipality of Morris. The second study was conducted in the Somerset-Manitou area where 93 farmers were visited in 1964. This area covered seven and one-half townships in the Rural Municipalities of Pembina and Lorne. The last study was conducted in 12 townships of the Rural Municipality of Pipestone where 75 farmers were contacted in 1965. In this paper, this area is designated as Reston-Cromer.

Soil Types

The soils in the Red River Valley were developed on a fine-textured lacustrine plain which, prior to cultivation, was treeless and covered with meadow prairie and wetland grasses (*1*). The topography is flat and internal drainage is poor. The main soil types in the Somerset-Manitou area are the Pembina, Altamont and Manitou clay loams (*2*). Topography ranges from gently rolling to undulating and hilly. Soils in the Reston-Cromer area are predominantly of the Oxbow association which consists of loam to clay loam soils, and were developed on a light brownish grey, moderately calcareous boulder till (*3*). Numerous low knolls and undrained depressions exist.

TABLE 1—COMMERCIAL FERTILIZER SALES, 1947-1965, AND PLANT NUTRIENT CONTENT OF COMMERCIAL FERTILIZERS CONSUMED IN MANITOBA, 1957 TO 1965

Year ended June 30	Sales of fertilizer mixtures and materials[a]	Fertilizer usage increase over preceding yr.	Available plant nutrients[b]		
			N	P_2O_5	K_2O
	tons	per cent	tons		
1947	10,398	—			
1948	12,521	20			
1949	17,037	36			
1950	21,560	27			
1951	22,715	5			
1952	27,084	19			
1953	31,871	18			
1954	22,063	−31			
1955	14,616	−34			
1956	15,460	6			
1957	15,664	1	2,182	5,619	60
1958	16,289	4	2,358	5,681	68
1959	21,094	30	3,080	7,406	74
1960	22,464	6	3,352	7,695	72
1961	29,930	33	4,781	9,805	103
1962	35,059	17	5,400	11,833	159
1963	47,125	34	7,602	15,302	171
1964	59,849	27	10,295	17,995	309
1965	74,432	24	15,665	20,751	283

[a]Manitoba Department of Agriculture and Conservation, *Yearbook of Manitoba Agriculture*, Winnipeg, 1965, p. 73.
[b]Dominion Bureau of Statistics, *Fertilizer Trade*, Catalogue No. 46-207. Data are not available for the 1947-56 period.

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SALES IN MANITOBA

Sales Trend, 1947 to 1965

Table 1 shows that fertilizer sales in Manitoba increased more than sevenfold from 1947 to 1965. However, this increase was not continuous over the period. For instance, fertilizer sales more than doubled from 1947 to 1953, then dropped by more than 50 per cent from 1953 to 1955. Following this decline, fertilizer sales increased sharply in 1959 and have continued to rise steadily since then.

Nutrient Content

Table 2 shows that phosphate was the plant nutrient in greatest demand during the nine-year period, 1957-65. However, nitrogen content of fertilizers used increased from 14 per cent of total weight in 1957 to 21 per cent in 1965. Conversely, the phosphate content decreased from 36 per cent of total weight in 1957 to 28 per cent in 1965.

TABLE 2—PLANT NUTRIENTS AS A PERCENTAGE OF TOTAL FERTILIZER USED, MANITOBA, 1957 TO 1965

Year ended June 30	Available plant nutrients[a]		Total percentage of plant nutrient in fertilizers
	N	P_2O_5	
	per cent		
1957	14	36	50
1958	15	35	50
1959	15	35	50
1960	15	34	49
1961	16	33	49
1962	15	34	49
1963	16	32	48
1964	17	30	48
1965	21	28	49

Source: Dominion Bureau of Statistics, *Fertilizer Trade*, Catalogue No. 46-207.

[a] K_2O content was less than 0.5 per cent in all years except 1964 when it was 1.0 per cent.

USE IN SELECTED AREAS

Kind of Fertilizer

The distribution by analysis of fertilizer used in three selected areas of Manitoba in each of three survey years is shown in Table 3. The most popular mixture was 11-48-0, which constituted 43 per cent of all fertilizer used in the Red River Valley area, 38 per cent in the Somerset-Manitou area, and 62 per cent in the Reston-Cromer area. The 27-14-0 mixture was the second most popular fertilizer in the Red River Valley and Reston-Cromer areas, constituting 24 per cent and 15 per cent of total fertilizer used, respectively. In the Somerset-Manitou area, the 16-20-0 mixture was the second most popular kind of fertilizer, making up 36 per cent of the total fertilizer usage in this area.

Only four fertilizer mixtures were used in these three areas during the study years, namely 11-48-0, 27-14-0, 16-20-0, and 33.5-0-0. Of the three areas, the Red River Valley area employed the greatest variety of fertilizers.

TABLE 3—TOTAL AMOUNTS OF SPECIFIED FERTILIZER MATERIALS USED BY A LIMITED NUMBER OF FARMS IN THREE SELECTED AREAS OF MANITOBA, 1962-65

Analysis	Red River Valley (1962) 36 farms	Somerset–Manitou (1964) 25 farms	Reston–Cromer (1965) 17 farms
	tons		
46–0–0	—	—	3.0
35.5–0–0	16.6	6.3	1.0
27–14–0	33.0	23.3	13.7
24–20–0	1.0	—	—
23–23–0	10.9	—	—
16–48–0	14.5	—	—
16–20–0	2.0	40.6	18.3
11–48–0	58.1	43.5	58.5
Total	136.1	113.7	94.5

Area Fertilized

The fertilized acreage on all sample farms, expressed as a percentage of the total acreage for each crop, is shown in Table 4. These percentages provide a measure of the relative importance of fertilizers for the various crops which are grown in each area.

In the Red River Valley area, 36 per cent of the harvested acreage of wheat and 11 per cent of the harvested acreage of oats were fertilized. The Somerset-Manitou area had 20 per cent of the harvested wheat acreage and 15 per cent of the harvested oat acreage fertilized, while in the Reston-Cromer area, fertilizer was applied to 18 and 11 per cent of the harvested wheat and oat acreages.

Distribution of Fertilizer Use by Crops

The amount of fertilizer applied to each crop, expressed as a percentage of total fertilizer consumption in each of the three selected areas, is given in Table 5.

For the Red River Valley, Somerset-Manitou and Reston-Cromer areas, all survey farms reported total fertilizer applications of 136.1 tons, 113.6 tons and 94.5 tons. Over two-thirds of these amounts were applied to the wheat and oat acreages, mostly to wheat.

TABLE 4—PROPORTIONS OF VARIOUS CROP ACREAGES WHICH WERE FERTILIZED IN THREE SELECTED AREAS OF MANITOBA, 1962-65

Crop	Red River Valley (1962)	Somerset-Manitou (1964)	Reston-Cromer (1965)
	75 farms	93 farms	75 farms
	per cent		
Wheat: fallow	38	16	12
stubble	32	34	39
Oats: fallow	12	—	—
stubble	11	15	13
Barley: fallow	—	100	25
stubble	58	70	30
Flax: fallow	1	14	30
stubble	4	6	6
Mixed grains	51	51	37
Pasture and fodder crops	2	3	4
Special crops	30	14	24
Total crop acreage	19	16	14

TABLE 5—TOTAL AMOUNTS OF FERTILIZER APPLIED TO SPECIFIED CROPS ON ALL FARMS SURVEYED IN THREE SELECTED AREAS OF MANITOBA, 1962-65

Crop	Red River Valley (1962)		Somerset-Manitou (1964)		Reston-Cromer (1965)	
	75 farms		93 farms		75 farms	
	tons	per cent of total fertilizer use	tons	per cent of total fertilizer use	tons	per cent of total fertilizer use
Wheat: fallow	58.8	43	32.6	29	25.9	27
stubble	28.8	21	26.6	23	26.2	28
Oats: fallow	3.1	2	—	—	—	—
stubble	14.7	11	23.3	20	11.3	12
Barley: fallow	—	—	1.7	2	4.9	5
stubble	6.0	4	8.5	7	4.8	5
Flax: fallow	[a]	[b]	1.2	1	—	—
stubble	3.7	3	5.6	5	1.7	2
Mixed grain	16.9	1	5.4	5	7.3	8
Corn	—	—	0.3	[b]	—	—
Rye	—	—	1.3	1	—	—
Rapeseed	—	—	1.0	1	4.9	5
Tame hay	1.0	1	6.3	6	7.7	8
Grass seed	17.7	13	—	—	—	—
Pasture	0.6	1	—	—	—	—
Total crop acreage	136.1	100	113.6	100	94.5	100

[a] Less than 0.05 tons.
[b] Less than 0.5 per cent.

APPLICATION RATES

Fertilizer and Plant Nutrients

Table 6 shows the average amounts of fertilizers, nitrogen, and phosphate applied per fertilized acre. The average rate of fertilizer application for wheat on fallow was 45 pounds an acre; and for wheat on stubble, 54 pounds an acre. Oats were grown mainly on stubble land and the average rate of fertilizer application was 50 pounds an acre. Some flax was grown in all three areas, but little of it was fertilized. The stubble acreage in all crops received approximately 44 pounds of fertilizer per acre. Tame hay, grass seed and pasture received a relatively heavy fertilizer application, but these crops were rarely fertilized.

The phosphate content of the fertilizer used generally exceeded that of nitrogen for cereal crops. By contrast, the grass crops usually had a higher proportion of nitrogen.

The quantity of nitrogen applied to stubble crops was invariably greater than that for fallow crops. On the other hand, the quantity of phosphate applied to stubble crops was, in most cases, less than that for crops on fallow.

TABLE 6—AVERAGE AMOUNTS OF FERTILIZERS AND PLANT NUTRIENTS APPLIED PER FERTILIZED ACRE ON SPECIFIED CROPS IN THREE SELECTED AREAS OF MANITOBA, 1962-65

Crop	Red River Valley (1962)			Somerset-Manitou (1964)			Reston-Cromer (1965)		
	Fertilizer	N	P_2O_5	Fertilizer	N	P_2O_5	Fertilizer	N	P_2O_5
	pounds per fertilized acre								
Wheat: fallow	44	6	21	43	5	20	49	5	23
stubble	48	10	11	55	10	13	59	9	21
Oats: fallow	59	9	29	—	—	—	—	—	—
stubble	47	12	7	60	13	10	42	9	17
Barley: fallow	48	—	—	43	5	20	97	6	25
stubble	30	12	7	42	7	8	42	8	9
Flax: fallow	34	3	14	35	5	12	—	—	—
stubble	48	7	10	43	9	8	40	8	11
Mixed grains	50	11	11	31	4	14	70	8	30
Corn	—	—	—	30	5	6	—	—	—
Rye	—	—	—	78	21	11	—	—	—
Rapeseed	—	—	—	50	6	24	57	9	12
Tame hay	100	16	48	115	38	—	80	26	9
Grass seed	107	32	9	—	—	—	—	—	—
Pasture	80	27	—	—	—	—	—	—	—
All crops and improved pasture	50	10	15	49	9	14	54	9	19

The ratio of nitrogen to phosphate in the fertilizer applied to stubble cereal crops was approximately 1:4, whereas the ratio for fallow crops was about 1:1.

The recommended nitrogen application, according to the Manitoba Agronomists' Conference, December 1965, is greater also for stubble than fallow crops whereas the same phosphate application is recommended for both fallow and stubble crops (*4*). The recommended rates, in brief, for cereal crops are 5–10 pounds of nitrogen and 20-30 pounds of phosphate per acre on fallow and 15-40 pounds of nitrogen and 20-30 pounds of phosphate on stubble. The recommendations for grass seed, hay and pasture are 30-85 pounds of nitrogen and 0-35 pounds of phosphate. These recommendations apply to Black and Dark Grey soils.

Actual and Recommended Rates

The wide gap for the areas as a whole between the actual and the potential use of fertilizers on the basis of recommended applications resulted because a high percentage of cropland received no fertilizer. Eighty-one per cent of the cropland in the Red River Valley area, 84 per cent in the Somerset-Manitou area, and 86 per cent in the Reston-Cromer area was unfertilized. Cropland included cereal crops, flax, special crops, tame grass, grass seed and cultivated pasture but excluded native pasture, fallow, breaking, trees, or idle land. On those farms which used fertilizer, the actual rates applied to fallow crops were generally close to the minimum recommendations but the applications to stubble crops were generally below the minima, especially for nitrogen.

The total nitrogen application for the 75 farms in the Red River Valley area was 26 tons. If the minimum recommended application rates were used on all crops, 121 tons of nitrogen would have been applied. If the maximum recommendations had been followed, 307 tons of nitrogen would have been applied. In the same area, 43 tons of phosphate were used whereas if minimum or maximum rates had been applied to all crop acres, 205 or 327 tons would have been used.

In the Somerset-Manitou area, 20 tons of nitrogen were used by 93 farms. If all crops had been fertilized according to current fertilizer recommendations, a minimum of 125 tons and a maximum of 311 tons would have been used. Thirty-two tons of phosphate were applied and the recommended minimum and maximum application for all crop acres was 249 and 388 tons.

Seventy-five farms used a total of 15 tons of nitrogen in the Reston-Cromer area as compared with minimum and maximum recommended amounts of 117 tons and 290 tons. Thirty-four tons of phosphate were applied, while 236 and 370 tons were the minimum and maximum recommended amounts for all crops on these farms.

Cost of Fertilizer

Table 7 shows the cost of fertilizer per fertilized acre. The average expenditures for fertilizer per fertilized acre were $2.35, $2.26, and $2.70 for the Red River, Somerset-Manitou and Reston-Cromer areas, respectively.

Average costs of fertilizer per farm for all farms surveyed were $172, $112, and $125 and average costs

TABLE 7—AVERAGE COST OF FERTILIZER APPLIED PER FERTILIZED ACRE ON SPECIFIED CROPS IN THREE SELECTED AREAS OF MANITOBA, 1962-65

Crop	Red River Valley (1962)	Somerset–Manitou (1964)	Reston–Cromer (1965)
		dollars per acre	
Wheat: fallow	2.28	2.24	2.63
stubble	2.22	2.37	2.87
Oats: fallow	3.17	—	—
stubble	2.12	2.53	2.49
Barley: fallow	—	2.10	2.71
stubble	2.15	1.73	1.74
Flax: fallow	1.50	1.56	—
stubble	1.63	1.79	1.88
Mixed grains	2.19	1.61	3.56
Rye	—	3.38	—
Rapeseed	—	2.50	2.21
Corn	—	1.45	—
Tame hay	5.30	4.92	3.82
Grass seed	4.10	—	—
Pasture	2.67	—	—

per farm for those farms using fertilizer were $359, $416, and $551 for the Red River Valley, Somerset-Manitou and Reston-Cromer areas.

For those farms using fertilizer, the expenditure on fertilizers in the Red River Valley, Somerset-Manitou and Reston-Cromer areas constituted four, five and six per cent of total farm expenses. Total farm expenses included all cash outlays, plus depreciation, but not interest on investment.

SUMMARY AND CONCLUSIONS

Consumption of fertilizers by Manitoba farmers has increased about five fold in the ten-year period 1955 to 1965. The most common fertilizer mixture in use is 11-48-0.

In a survey of three selected areas of the province, designated the Red River Valley, Somerset-Manitou and Reston-Cromer areas, it was found by the authors that over two-thirds, by weight, of all fertilizers used were applied to the wheat and oat acreages, mostly to the wheat acreage.

The average rate of fertilizer application per fertilized acre for wheat on fallow was 45 pounds; for wheat on stubble, 54 pounds; and for oats on stubble, 50 pounds. In terms of 11-48-0, these rates correspond closely with the current recommended minimum rates for fallow crops. They also compare closely with the minimum phosphate recommendations for stubble crops but are below the recommended rate of nitrogen application. The average expenditures on fertilizers were $2.35, $2.26 and $2.70 per fertilized acre for the Red River Valley, Somerset-Manitou and Reston-Cromer areas.

However, over 80 per cent of the cropland in the three areas was unfertilized. This situation suggests that considerable potential exists in Manitoba for further expansion in fertilizer use with resultant increases in production and farm incomes.

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POLICY AND ADMINISTRATION OF PUBLIC LANDS IN ONTARIO WITH PARTICULAR REFERENCE TO AGRICULTURE

R. A. Stutt

Public lands policies and programs are always in a stage of transition and vary with the attitudes of people towards land and the social structure of the time. These changing policies and programs reflect, also, the increasing concern and role of government in the direction, use, conservation and development of the land base resource, whether public or private. The public institutions and agencies which have developed are strategic factors in land use adjustment, particularly in problem areas or areas of underemployment.

This article (*1*) deals with present aspects of policy and programs of publicly owned lands in the Province of Ontario, namely, the pertinent legislation; the powers of administration; the agencies involved; acquisition, allocation and disposition; control and regulations; sale and lease provisions; improvement and management; farm enlargement and consolidation; and some general guidelines and trends relating to land use and conservation of both public and private agricultural lands.

Provincial public lands are extensive in Ontario. Out of a total surface area of 412,582 square miles, over 362,000 square miles are owned by the Province. Excluding existing provincial parks and reserves, provincial lands amount to 355,869 square miles or 86 per cent of the total area (Table 1). In comparison, the area of federal lands is very small, comprising only 3,608 square miles, less than one per cent of the total.

Considering the land area only, the data in Table 1 show that about 75 per cent of the Province is forested land, about 8 per cent is occupied agricultural land, and another category, classified as "other", amounts to 17 per cent. This latter group comprises urban lands, road allowances, grass and brush land and all waste such as open muskeg, swamp, rock and unclassified land. In the land area administered by the Province, extensive productive and non-productive forests predominate, particularly in Northern Ontario.

In Ontario the majority of public lands held under the jurisdiction of the Province are administered by the Department of Lands and Forests. Other departments involved are the Department of Agriculture and Food (*2*), the Department of Mines and the Department of Highways. The branch of the Department of Lands and Forests concerned mainly with policy and administration of the public lands of Ontario is the Lands and Surveys Branch. This Branch is comprised of four sections: (a) Surveys, (b) Lands, (c) Land Use Planning, and (d) Engineering.

The principal functions of these Sections are to carry out surveys of Crown lands; acquire lands for governmental purposes; administer, service and dispose of these lands; prepare land use plans of public lands, designate wilderness areas and provide advisory services relative to recreational use; provide water resource management and general engineering services; provide services pertaining to fish hatcheries and plants; wildlife management; and build access roads.

Administration

The legal basis for the administration of the public lands of Ontario is the Public Lands Act. Public lands include lands designated as Crown lands, school lands and clergy lands. Under this authority, the function of the Minister of Lands and Forests is to direct the management, sale and disposition of the public lands and forests. The Minister is advised by a number of committees and sub-committees. The duties of the committees are to advise on policy such as the Minister may direct, regard being had to the conservation, development and utilization of the renewable natural resources of Ontario.

The Public Lands Act provides for a provincial committee, known as the Public Agricultural Lands Committee, and district sub-committees. It is the duty of the provincial committee: (a) to recommend to the Minister of Lands and Forests the lands that are suitable for sale or other disposition for agricultural purposes and measures for the development of such areas, and (b) to consider applications to acquire lands for agricultural purposes in any such areas and all matters relevant thereto. This is in reality an interdepartmental committee consisting of members of the Department of Agriculture and Food and of the Department of Lands and Forests, of which the Supervisor of the Lands Section is the Chairman. The designated purpose of such provincial and district sub-committees is to determine the amount and location of agricultural lands suitable for agricultural use and lands that should be channeled into other uses.

The Public Agricultural Lands Committee deals with all applications for Crown agricultural land, and the local district sub-committees handle local sales of these lands for agricultural purposes. At present none of these applications are dealt with in any way by the provincial ARDA Committee. However, very little land is being alienated from the Crown for agriculture. All lands acquired for fish and wildlife, timber, general recreation and provincial park purposes are

purchased through the Acquisition Section of the Lands and Surveys Branch. This also includes lands being acquired under the ARDA program.

The actual mechanics of land acquisition for public control or adjustment are carried out under the Public Works Act on behalf of the Department of Lands and Forests. The appraisal is also made by the Public Works Department for any use such as forestry, agriculture or any other program. Lands so acquired are deemed to be public lands.

After lands are acquired in this manner, the administration and management is usually turned over to the particular department or branch of the government most directly concerned. That is, lands designated as agricultural lands are handled by the Department of Agriculture and Food, recreational lands by Fish and Wildlife and Parks Branches and forestry lands by the Timber Branch of the Department of Lands and Forests.

There is provision by the Department of Lands and Forests to purchase lands when there is a recognized problem of land use. It is not generally a practice to use expropriation. Also, a great deal of flexibility exists in the management and designated use of these acquired lands. There are often special provisions, such as allowing people to remain in homes on purchased lands as long as the farmer-owner desires.

For the purpose of the management of public lands, zones designated as "open", "deferred" or "closed" may be established and the purposes outlined. If this is done the lands may be administered only for the particular purpose stipulated. In practice, agricultural zoning is not employed as a means of controlling land use, although local government units or counties have this power under the Ontario Planning Act. A great deal of the administration of directed land use is based on the judgment and current decisions of officials in the Department of Lands and Forests. On the other hand, an increasing amount of direction is now laid down in departmental regulations.

The Ontario Interdepartmental ARDA Committee is a new body created to determine and advise on appropriate land policies, among other objectives, and to redirect the use and management of rural lands through programs of technical and financial assistance. The emphasis is particularly pertinent and applicable to adjustment and alternative use of lands presently farmed or in the process of abandonment because of current unfavorable physical, economic or sociological factors and conditions. The focus of the Committee is predominantly oriented through the Department of Agriculture and Food. One of the most important areas of involvement is a program to encourage farm enlargement and consolidation. Further reference is made to this program later in this article.

Moreover, the interests of the Committee extend to all other uses of land, such as forestry, recreation, industrial or urban, as it pertains to best land use, and to technological developments, markets, and the needs of the population. Thus, the scope and activity of the Committee is concerned with the overall situation of the environment of rural Ontario, involving privately owned lands as well as Crown or public lands.

Disposition

In addition to the sale or lease of public lands to individuals, lands may also be disposed of through tender or auction. A forestry or site classification developed by Angus Hills of the Research Branch, Ontario Department of Lands and Forests, is used in the disposal of land, as well as other factors such as the best considered uses of land, i.e. recreation, wildlife, etc. The technical nature of this site classification permits the preparation of a recommended use capability map based on the ability of the soil to produce different products. This site classification is available for most of Northern Ontario and is being extended gradually to Southern Ontario. It is anticipated, also, that the Canada Land Inventory will provide further direction for best land use in the future. In the case of public forests, trees suitable for cutting are marked and a stumpage is charged against those doing the cutting.

Amendments to the Public Lands Regulations, effective March 25, 1960, were made to provide for the payment of higher charges for public lands used for various private, commercial and industrial purposes. The purchase price of agricultural land was raised from 50 cents an acre to $2.00 an acre; land for summer resort locations for private use from $1.00 to $2.50 per foot frontage, and for commercial use from $1.00 to a minimum of $4.00 per foot frontage. The other amendments cover increased annual rentals for certain types of land use and bring under regulations some uses previously dealt with by policy interpretations of officials.

The policy of surveying public lands in subdivisions for sale for private and commercial use has been accelerated in recent years to provide a sufficient number and selection of parcels on various lakes to satisfy the demand for cottage sites and recreational services.

Crown leases are the most common means of disposing of land for commercial and industrial use. The decrease in the number of transactions in recent years of agricultural land, including free grants, is due both to a lack of interest in acquiring land for this purpose during a favorable period in the economy and to a policy of discouraging persons who are

neither financially able nor sufficiently experienced to successfully meet the requirements of the regulations.

Amendments and additions continue to be made to the Public Lands Act and procedures in order to meet changing needs and situations. As an example, an amendment in the fiscal year ended March 31, 1963 requires that at least 25 per cent of the total frontage of Crown land areas fronting on water be reserved for public use. Also, procedures relating to zoning plans were improved; new regulations governing the sale and leasing of public lands were passed; extension of time for performance of a term or condition of sale or lease was provided; and provision was made to obtain possession of public lands after revocation, cancellation or expiration of a sale or lease or where a person was in unlawful possession or occupation. New regulations have established that a beach used for travel by the public is not, by reason only of such use, a highway within the meaning of any Act. A further legal classification was the right of the Crown to a quarter of all Crown lands subdivided into lots, blocks or parcels.

Since an ever-increasing number of people are ranging farther afield in pursuit of hunting and angling and other outdoor recreation, and because the Government of Ontario considers it undesirable to hamper their freedom of movement, a procedure has been established to permit the use of certain public lands for the above purposes for a period not exceeding three weeks, without charge.

For land inspections and appraisals, more accurate and detailed supporting data are being required in the fixing of land and timber values.

Land Use Planning and Control

Land use planning in the Department of Lands and Forests is concerned with the best management and use of the renewable natural resources of the province. The district land use plans include a classification for agriculture of lands best suited for this purpose since it is believed that a close relationship exists between the management and use of land for agricultural purposes and other renewable natural resources. The main renewable natural resources of concern, however, are timber products, fish and wildlife, and recreation.

Practically no promotional effort is being given to settling Crown lands in Ontario for agricultural use, but an information release of the Department of Lands and Forests on the availability of Crown land for agricultural purposes outlines the present policy. Crown lands for agricultural purposes are more readily available in those districts north and west of a line from Sudbury to North Bay. Again, the soil classification system developed by Angus Hills, is used to determine the agricultural use capability of land in each of these districts. Only lands with a suitable agricultural potential will be rented or sold. (Free grants of land are not now available.) Lands in forested or remote locations or virgin areas are not available for farming.

Applicants for Crown lands are interviewed by the District Forester to determine their ability ultimately to establish a "full-time farming operation". Farming experience, availability of cash, and amount of owned livestock or machinery are regarded as important factors in determining eligibility. The prospective farmer is also interviewed by the Agricultural Representative in order to assess the applicant's chances of successful establishment. The local sub-committee of the Public Agricultural Lands Committee also considers the application. Lands may be rented (part or whole lots of 75 to 150 acres) under an agreement for a period of up to five years, with an annual option to purchase at the end of the period, provided that satisfactory establishment progress has been made toward a full-time farming operation. The minimum sale price an acre is currently $2.00, plus the value of all forest products on the land and the value of improvements existing at the time of the first rental. Value of improved lands in July, 1964 ranged from approximately $10.00 to $20.00 an acre.

In the case of community pasture development, which is as yet limited in extent in Ontario and is largely on an experimental basis, the policy is for local committees to develop their own regulations and guidelines for pasture allocation and other related considerations. Pasture allocation is usually on a first-come-first-served basis although consideration is given to limiting the extent of use by individual farmers. The Department of Agriculture and Food establishes the maximum livestock carrying capacity of the pastures.

The sale of summer resort parcels of Crown lands is also handled through the District Forester. This is a growing field for disposition because of the increasing interest in recreation and the development program of the Department for this use.

Farm Enlargement and Consolidation

One of the programs of the Ontario Department of Agriculture and Food designed to help farmers in Northern Ontario expand or enlarge their improved farmland area, is the subsidy paid on clearing and breaking. This program applies on all lands that qualify, whether privately owned or public lands under lease. Under this policy, the Department of Agriculture and Food pays 50 per cent of the cost of clearing and breaking of land up to a maximum of $25.00

an acre. Farmers who have cleared land but are not cropping or utilizing it are not eligible for subsidy, and the assistance is available only where lands are considered suitable for agricultural purposes. Applications are received at the Agricultural Representative's office and each farm is visited and the farm operator advised on the best farm practices and operations in utilizing this land.

The provincial government for some years has encouraged farmers to enlarge their farm units by the addition of individual lots of land or entire farm units. This sort of encouragement is also given by the federal Farm Credit Corporation when it considers a new farm layout is likely to be successful.

During the last few years, the Ontario Department of Agriculture and Food has consolidated blocks of Crown and other lands in Northern Ontario with the view to encouraging new and larger viable farms or additions to existing farms. Experimental 1,500-acre blocks of public lands are being formed for rental as ranch units.

Present emphasis, however, is focused on a new plan to provide for the enlargement and consolidation of uneconomic farms throughout the province. This plan was announced on June 3, 1966, under the joint federal-provincial Rural Development Agreement by the respective Ministers of the Canada Department of Forestry and the Ontario Department of Agriculture and Food. This is an ARDA program and is designed for the enlargement of present uneconomic farm units. All economic and sociological studies of low income farms indicate that the prime factor or prerequisite for success is the need to increase farm size significantly.

It is intended that this program will operate through the purchase of uneconomic farm units by the agency when these lands are offered for sale and by consolidation through long term lease or "first option to

TABLE 1—TOTAL LAND AND WATER AREA OF ONTARIO CLASSIFIED BY TENURE AND USE

	Square Miles	Per cent
TOTAL LAND AREA	344,092	83.4
TOTAL FRESH WATER AREA	68,490	16.6
TOTAL AREA OF PROVINCE	412,582	100.0
TENURE IN 1963		
Federal Lands[a]		
(1) National Parks	12	—
(2) Indian Reserves	2,431	0.6
(3) Forest experiment stations	41	—
(4) Other	1,124	0.3
TOTAL	3,608	0.9
Provincial Lands[a]		
(1) Provincial Parks & Park Reserves	6,700	1.6
(2) Other	355,869	86.3
TOTAL	362,569	87.9
PRIVATELY OWNED LAND OR LAND IN PROCESS OF ALIENATION FROM THE CROWN	46,405	11.2
TOTAL AREA OF PROVINCE	412,582	100.0
USE IN 1962		
Occupied Agricultural Land		
(1) Improved	18,802	5.4
(2) Unimproved	10,227	3.0
TOTAL	29,029	8.4
Forested Land		
(1) Productive	160,651	46.7
(2) Non-productive	96,006	27.9
TOTAL	256,657	74.6
Other	58,406	17.0
TOTAL LAND AREA[b]	344,092	100.0

[a]Breakdown of provincial lands and water areas supplied by Ontario Department of Lands and Forests.
[b]According to the 1961 Census of Agriculture the total land area was 213,654,400 acres.
Source: *Canada Year Book 1965*, page 25 and *Canada Year Book, 1963-64*, page 31.

purchase" by operators of remaining farm units when expansion is desirable. The purchase price under the program is restricted to $100 per acre for land, with developmental costs not to exceed $50 per acre.

The voluntary features of the program should be noted. Lands are to be purchased by the ARDA agency only when offered for sale on the market and not through any type of expropriation proceedings. If the seller wishes to remain in the farm home, a life lease will be granted. Other important aspects of the agreement provide for the re-establishment and retraining of the affected farm people through Program V of the federal-provincial Technical and Vocational Training Program. Rural families involved and wishing to move to confirmed employment beyond commuting distance can qualify, also, for a federal manpower mobility grant.

Special aspects of Program V relate to farm owner-operators not in a position to take advantage of the above features because of age. Land belonging to an owner-resident between the ages 55 and 65 can be purchased through the program only if there is assurance that he has an adequate annual income. If an owner-resident in this age bracket is unable to work and the proceeds of the sale are insufficient to assure him an annual income of $1,200, then special federal-provincial financial assistance will be available to make up the difference.

Conservation Authorities

Any statement on land policy in Ontario would be incomplete without reference to the work of the Conservation Authorities. This work is directed through a Branch now included in the newly created Department of Energy and Resources Management (*3*), after being transferred from the Department of Lands and Forests. Prior to January 1, 1962, the Branch was in the Department of Economics and Development, although it was established originally in 1944 as part of the Department of Planning and Development. The Conservation Authorities are concerned with the use and conservation of all lands (public and private) within specified areas and they can have a profound educational influence in this respect.

Under the Conservation Authorities Act of 1946, Conservation Authorities, consisting of one or more municipalities, may be established on the basis of a watershed or drainage area of a stream or group of streams. The Branch advises and provides technical and financial assistance to Conservation Authorities carrying out conservation projects within the watersheds under their jurisdiction.

Conservation Authorities are corporate bodies and involve the concept of organized local responsibility for the development and management of the resources of a watershed. These Authorities are a unique partnership between the interests and initiative of local people and the technical and financing ability of senior governments.

NOTES AND REFERENCES

(*1*) Information for this article was based primarily on the annual reports and land regulations of the Ontario Department of Lands and Forests and private discussions and correspondence with officials in this Department and the Ontario Department of Agriculture and Food.

(*2*) The Department's name was recently changed from "Agriculture" to "Agriculture and Food".

(*3*) Recent information on the activities of the Ontario Department of Energy and Resources Management is found in a paper entitled "Water Policy and Administration in Ontario" by T. R. Hilliard, Deputy Minister, Sixth Annual Convention, Ontario Institute of Professional Agrologists, April 25-27, 1965.

THE DISTRIBUTION OF PERISHABLE FOODS IN METROPOLITAN TORONTO

L. C. Rayner

An international symposium was held in 1965 to study the problems of supplying perishable foods to today's growing urban areas (*1*). Canada was asked to participate by providing information on the experience of distributing perishable foods in the Metropolitan Toronto area.

Among the many countries participating in the symposium a variety of distribution systems was apparent. To facilitate discussion at the symposium, the systems were classified into four main types:

(1) The primitive type of market economy is one where there is no definite division, from the trade point of view, between wholesale and retail. For this type, market sites are merely places where buying and selling take place and quantitative supply-demand adjustments and price formation seem to vary widely at any point of time. These features are more characteristic of certain big cities in developing countries.

(2) The conventional type of market economy is one where the terminal wholesale trade is the normal and predominant channel between retailers on the one hand and producers on the other. This is a market where foodstuffs come from afar, producers cannot generally be present at the market, where fresh produce of every quality and every form for presentation may find a place, and price formation results from the interplay of supply and demand for foods traded in small lots. The terminal market is a well-established time honored type in the European scene.

(3) The co-operative economy type is one where such institutions as marketing boards, co-operatives and food collecting organizations in socialist countries make up a predominant part. It features price formation that is more or less administrative in character resulting from over-all comparisons between supply and demand and in some instances, collective bargaining arbitrated by the public authorities. Taken to its extreme, this type of market tends to lose its competitive character and plays a purely "distributive" part with its market sites replaced by warehouses.

(4) The distributive economy type is the system developing and becoming more prevalent on the North American scene. Its basic distinction, while operating within a relatively free enterprise economy, is the phenomenon of integration or co-ordination of supply through concerted planning and programming and agreed relationships between retail outlets and wholesale supply, which may or may not be sanctioned by legal ties. The terminal market is uncommon and if one exists, it is no longer the only center of price formation and increasing quantities of food follow distribution channels which by-pass it.

In viewing the Canadian distribution system and particularly that of Metropolitan Toronto in relation to the above classification, it is apparent that characteristics of each of the four types exist. There is a variation in the size and activities of firms involved, in the location of specific distribution activities and in the diversity of marketing channels. However, the characteristics which are most predominant indicate a major trend toward the "distributive type". The economic function of consumption increasingly guides the functions of distribution and production as urban population and income grows. A distribution system is being developed that is co-ordinated more and more to meet consumption needs, with demands for regularity of supply, extensive choice and variety, improved quality and methods of presentation geared to visual merchandising.

For example, of all the perishable commodities marketed in Toronto, only fresh fruits and vegetables have a distribution system that includes a recognized wholesale terminal market. This is the Ontario Food Terminal. In addition, the Ontario Food Terminal through which passes approximately one-half of the annual tonnage of fresh fruits and vegetables reaching Metropolitan Toronto, is changing in nature (*2*). Many fruit and vegetable wholesalers use the facility for packing and distribution operations rather than as a site for buying and selling transactions or what is commonly referred to as "trading". Nearly all wholesale firms provide delivery services.

The majority of the wholesalers of perishable commodities in the Metropolitan Toronto area are complete-service wholesalers. Their operations are not oriented to daily trading such as on-site purchasing and selling, but rather are organized to provide some segment of the market with a continuous supply by providing services such as procurement, storage, conditioning, packing, labeling and delivery, etc. The facilities of the service wholesalers need not, and are not, located in any common section of the Metropolitan area except for those fruit and vegetable wholesalers who are tenants of the Ontario Food Terminal.

Processing and packing facilities for perishable commodities, which are generally located outside the Metropolitan area near to the areas of farm production, are, in many instances, co-ordinated with the supply requirements of wholesale and retail organizations in Metropolitan Toronto. This results in the products being prepared to specification and delivered direct from processing establishment to retail outlets and institutions as required. The distribution charts for fresh meat, poultry meat and butter illustrate the importance, in terms of volume, of the direct distribution channel from processor to retail outlet.

The major development in the co-ordination of supply of perishable foods to today's retail outlets is the purchasing and distribution centers of the corporate chains and of the wholesale firms who supply affiliated groups of retail stores. In each of the accompanying flow charts, except the chart for fresh meat, the purchasing and distribution center is shown as a significant part of the major channel of supply to consumers in Metropolitan Toronto and to the urban communities within a wide radius of Toronto.

The services performed by the distribution center in addition to the activities associated with procuring foods, varies with each company and with each commodity. These services vary from ripening and labeling bananas, to washing and packing vegetables, to cutting and packing butter prints, to storage of frozen products, to warehousing, and to daily delivery to retail outlets. While the extent of these services within each company is influenced by the nature of warehouse and processing facilities available, generally speaking, the distribution centers engage directly in those activities involved in supplying perishable commodities that seem not to be adequately supplied by other firms in the marketing system. The definition of "adequate", of course, depends upon the thinking of management of the organizations operating the distribution centers. In general "adequate supply" means the regular supply of perishable goods and services co-ordinated with the needs and merchandising objectives of the self-service supermarkets and other retail outlets being served.

While developments in the distribution system vary with each commodity, there is increasing co-ordination in the whole process of supplying the urban consumer with perishable foods. This is the result of certain technological and sociological changes, changes in the scale and efficiency of processing and distribution facilities and, in particular, the emphasis given to meet consumer needs as expressed through today's self-service retail outlets. With today's marketing channels increasingly held together by this co-ordination, it does not imply, however, a lessening of competition. For most wholesale firms in the market, their success, and even their survival, depends more on their activities being a necessary part of the distributive system. There is evidence of a competitive drive at all levels of the wholesale trade for each firm to have a recognized and increasingly significant part in the regular supply of perishable foods.

REFERENCES

(*1*) International symposium on "The Supply of Food to Large Towns" held in Paris, March 2-5, 1965, sponsored by the Government of France, convened by the National Centre of Agricultural Exhibitions and Fairs, Paris, (LE CENTRE NATIONAL DES EXPOSITIONS ET CONCOURS AGRICOLES), under the patronage of the Food and Agriculture Organization (FAO) and the Organization for Economic Co-operation and Development (OECD).

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Major Channels of Distribution of Fresh Meat, Metropolitan Toronto - 1964

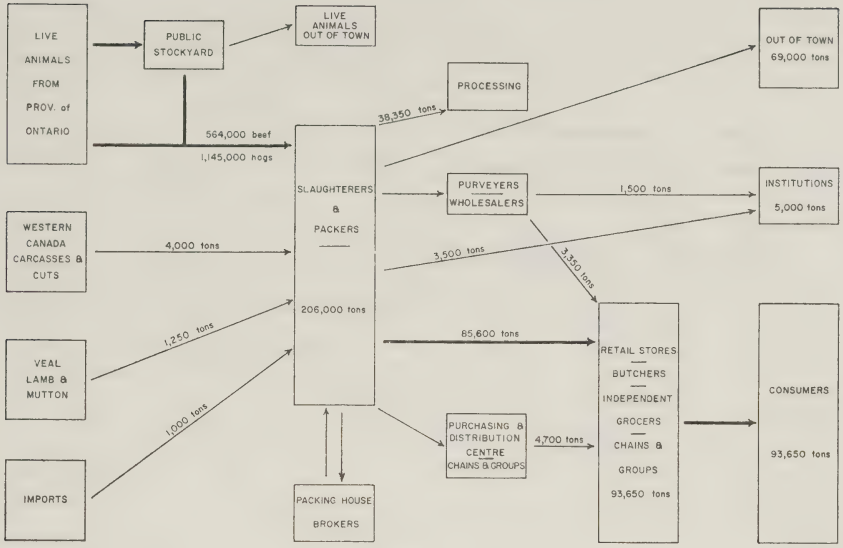


FIGURE 1

Major Channels of Distribution of Poultry Meat, Metropolitan Toronto - 1964

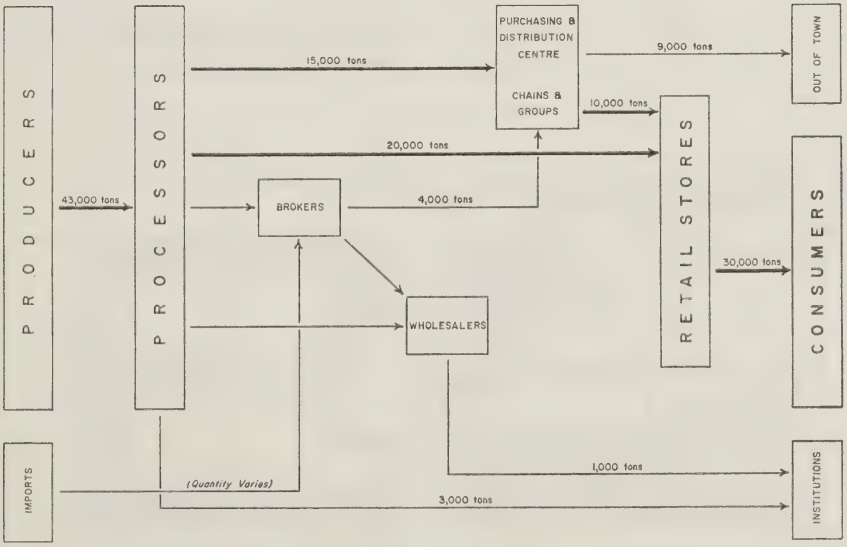


FIGURE 2

Major Channels of Distribution of Creamery Butter, Metropolitan Toronto - 1964

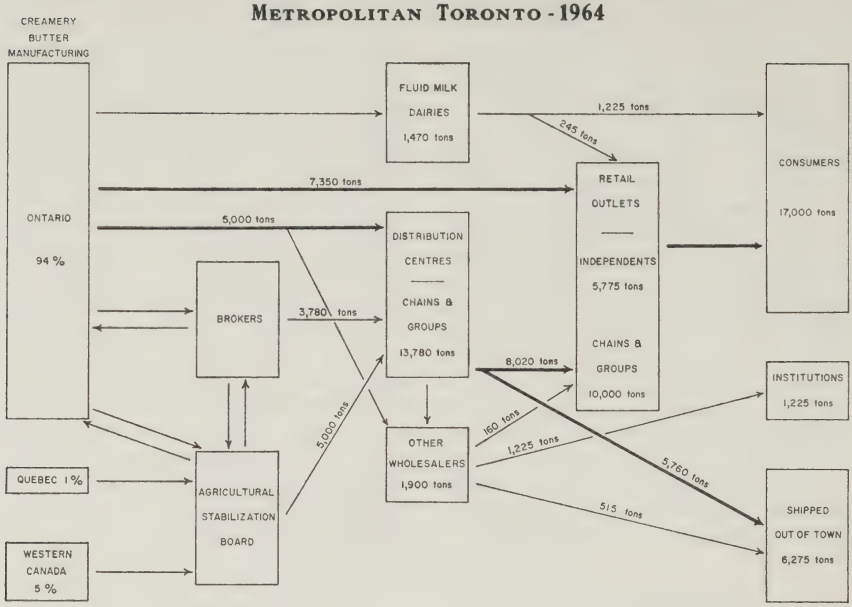


FIGURE 3

Major Channels of Distribution of Cheddar Cheese, Metropolitan Toronto - 1964

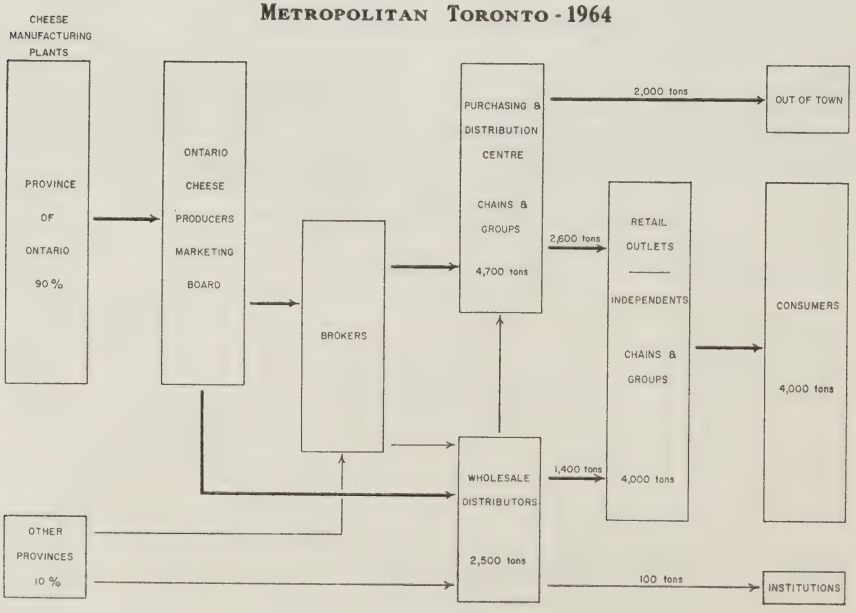


FIGURE 4

Major Channels of Distribution of Eggs, Metropolitan Toronto - 1964

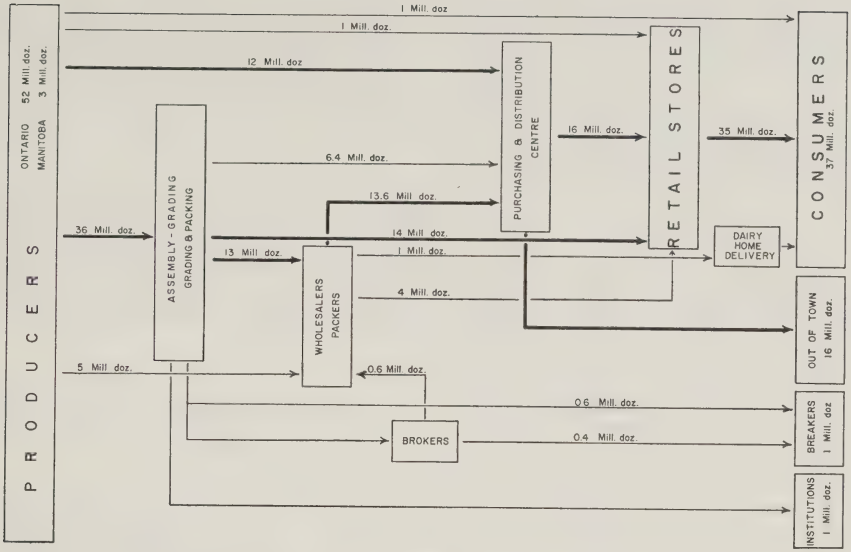


FIGURE 5

THE MAJOR CHANNELS OF DISTRIBUTION OF FRESH FRUITS AND VEGETABLES, METROPOLITAN TORONTO – 1963

(THOUSANDS OF TONS)

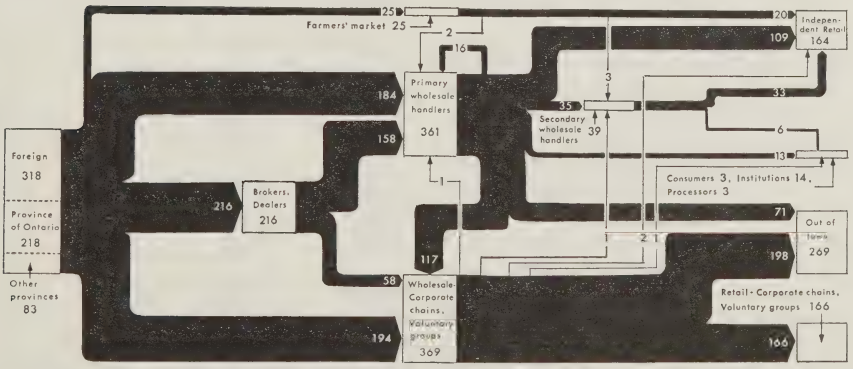


FIGURE 6

MARKETING COSTS OF FOOD IN CANADA, 1949-1964

K. E. Cann and L. C. Rayner

Food purchases by Canadian consumers increased two and a half times in the period 1949 to 1964; from an estimated $2.6 billion in 1949 to $6.4 billion in 1964. The retail value of domestically produced foods comprises about four-fifths of total food purchases. The amount spent on domestic foods covers the costs of transforming the raw product from the farm and placing it in the hands of the consumer, referred to in Figure 1 as the "marketing bill", and payments to the farmer for his products. The farm value, shown below, for farm products consumed domestically accounts for an estimated 60-65 percent of total farm cash receipts because exports and sales of non-food products are excluded.

The relationship between retail value, farm-retail marketing bill and farm value for domestic produced foods is shown in Table 1. The table shows also the farm value expressed as a percent of retail value. These percentage figures dropped during the 1950's but levelled off in the first half of the 1960's.

While the total farm value of domestic foods has increased during the period 1949-1964, the marketing bill has advanced at a faster rate with a total increase of about 240 percent. Many factors influence the size of the marketing bill, such as population growth, consumer income, proportion of convenience foods, added services in merchandising foods, promotion, and changing costs of labor, supplies and equipment of firms in the marketing system, etc. Our analysis of aggregate data did not permit the measure of all interrelationships of these factors nor their relative importance; however, the use of aggregate data and indexes does provide an approximate explanation of the increase.

The increase in the marketing bill from 1949 to 1964 can be said to arise from two things—the greater physical volume of food passing through the marketing system and the increased cost of marketing. It is estimated that the volume of food has risen 60 per cent in this period and the costs of marketing an equivalent quantity of food by an estimated 113 per cent.

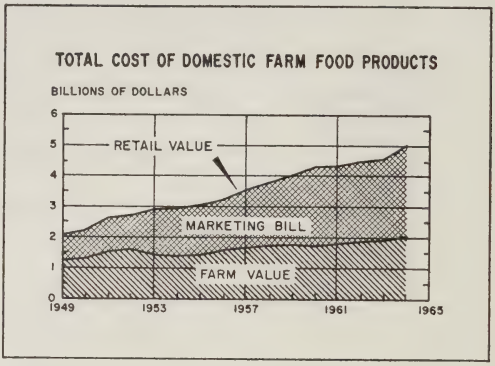


TABLE 1—ESTIMATES OF THE FARM-RETAIL MARKETING BILL FOR DOMESTIC PRODUCED FOODS, CANADA, 1949-1964

Year	Retail Value	Farm Value of Raw Food Materials	Farm-Retail Marketing Bill	Farm Value as a Per Cent of Retail Value
		million dollars		per cent
1949	2,111	1,234	877	58
1950	2,247	1,292	955	57
1951	2,643	1,544	1,099	58
1952	2,759	1,554	1,205	56
1953	2,925	1,487	1,438	51
1954	2,930	1,481	1,449	51
1955	3,101	1,493	1,608	48
1956	3,313	1,562	1,751	47
1957	3,607	1,617	1,990	45
1958	3,880	1,735	2,145	45
1959	4,081	1,786	2,295	44
1960	4,300	1,760	2,540	41
1961	4,332	1,782	2,550	41
1962	4,573	1,924	2,649	42
1963	4,669	1,988	2,681	43
1964	5,029	2,043	2,986	41

Source: Based on Dominion Bureau of Statistics data.

POLICY AND PROGRAM DEVELOPMENTS

Rabies Indemnification Regulations—The maximum amount per animal payable by the Federal Government to the Provinces of Ontario and Quebec as reimbursement for indemnities to farmers for animals that die from rabies has been increased to $120 for cattle, $100 for horses, and $40 for sheep, swine or goats.

Hitherto, the maxima payable by the Federal Government were $100, $40 and $16 respectively. (July 14, 1966)

Anthrax Indemnification Regulations—The maximum amount per animal payable under these regulations has been increased as follows (previous maximum limits in parenthesis): cattle $300 ($250); horses $250 ($100); sheep $100 ($40); swine $100 ($40); goats $100 ($40). (July 27, 1966)

Ontario Bean Producers' Marketing Order—The name of the Ontario Bean Growers' Marketing Board has been changed to the Ontario Bean Producers' Marketing Board and the word "Producers" is to be substituted for "Growers" in all regulations relating to the Board. The period during which the Marketing Board may fix, impose and collect levies or charges has been extended from August 14, 1966 to August 14, 1967. (August 3, 1966)

Ontario Fresh Grape Growers' Marketing Order—The Ontario Fresh Grape Growers' Marketing Board has received authority to regulate the marketing of fresh grapes outside the Province of Ontario. Hitherto, this authority under the Farm Products Marketing Act of Ontario was confined to the marketing by the Board, of fresh grapes locally within the Province. (August 9, 1966)

Canada Dairy Products Regulations—The definition of cheddar cheese contained in these regulations has been amended to authorize the use of new and improved methods and techniques in the manufacture of cheddar cheese. As a result the fat standard for cheddar cheese has been raised from 48 per cent to 50 per cent on the dry basis, thus bringing the fat standard in line with those of other large cheddar cheese manufacturing countries.

Sections in the regulations pertaining to washed curd cheddar cheese have been deleted, as this product is no longer being manufactured in Canada. (August 11, 1966)

Wheat Board Initial Payments for 1966-67—Effective August 1, 1966, the Canadian Wheat Board initial payments to producers for the basic grades of western wheat, oats, and barley during the 1966-67 crop year are: wheat (No. 1 Manitoba Northern, in store Fort William/Port Arthur or Vancouver), $1.50 per bushel; oats (No. 2 C.W. Oats, in store Fort William/Port Arthur), 60¢; barley (No. 3 C.W. Six-Row Barley, in store Fort William/Port Arthur) 96¢ per bushel. These initial payments are the same as those for the 1965-66 crop year.

The Board suspended delivery quotas at all delivery points in designated areas from July 18 to August 20, 1966, to ensure that an adequate supply of all types and grades of grain was continuously available in country elevators and to maintain an uninterrupted flow of grain to terminal positions. (July 18, 1966)

Crop Insurance Extended—New amendments to the federal Crop Insurance Act provide for insurance up to 80 per cent of the average yield of a crop; for comparable protection against the loss of crop production units (such as fruit trees or perennial forage stands), or where the seeding of summerfallowed land is prevented by excessive moisture or other natural causes; and for a five per cent increase (to 25 per cent) in the federal government's contribution to premiums necessary to make the scheme self-sustaining.

Previously, crops could not be insured for more than 60 per cent of the average long-term yield for an area, and coverage did not include crop production units and summerfallowed land.

The revised Act also provides that where sufficient yield data are available, coverage can be determined on the basis of the normally expected yields for individual farms or the average yield of the crop in any area, whichever is the greater.

Development and implementation of specific crop insurance programs are the responsibility of provincial governments who, under the terms of the federal Act, decide the crops to be covered, who is eligible for insurance, and the maximum coverage an individual may obtain. (July 15, 1966)

Ontario Onion Producers' Marketing Order—The Ontario Onion Producers' Marketing Board and the Farm Products Marketing Board of Ontario have received authority to regulate the marketing of onions in inter-provincial and export trade in a manner consistent with the powers already exercisable by them for the marketing of onions within the Province of Ontario.

The producers' marketing board is also given power to fix, impose and collect levies or charges on persons engaged in the production or marketing of onions, in order to create reserves and offset losses, such levies or charges not to exceed 5 cents for each 50 lb. bag of onions marketed. This section of the order is effective to June 1, 1967. (July 7, 1966)

PUBLICATIONS

ECONOMICS BRANCH PUBLICATIONS

Changes in Farm Organization, Reston-Cromer Area, Manitoba 1965. Johnson, L.M., Winnipeg, June, 1966. Pub. 67-7. pp. 120.

This is the report of a study of grain-livestock farms in the Reston-Cromer Area of Manitoba. It farms in the Reston-Cromer Area of Manitoba. It Provinces since 1954. Previous studies in the Reston-Cromer Area were of grain-livestock farms in 1954 and 1960.

OTHER PUBLICATIONS

Not available from Economics Branch.

Adult Education and the Adoption of Innovations, Verner, Coolie, University of British Columbia, and Frank W. Millard, Department of Fisheries. Published by The Department of Agricultural Economics, University of British Columbia, Vancouver, 1966. pp. v + 92. Price $1.50.

A study designed to analyze the diffusion process as it functions in relation to a specific Canadian agricultural population (orchardists in the Okanagan Valley of British Columbia) and to relate it to general theory and research about the diffusion of information and the acceptance of agricultural innovations.

Income Variations in Beef Production, Love, Harold C., Department of Agricultural Economics, University of Alberta. Distributed by the Department of Extension, University of Alberta, Edmonton. Agricultural Economics Research Bulletin No. 1, January 1966. pp. iii + 34.

A study of the output and income variation experienced by southern Alberta livestock operators in the production of stocker and feeder calves during the post-world war II period.

Dairying Costs and Returns, Regina Area—1965, Barber, S.H., Economics and Statistics Branch, Saskatchewan Department of Agriculture. Published by the Saskatchewan Department of Agriculture, Regina, June 1966. pp. 17.

This report is a continuation of the Department's 1965 study of records of a sample of dairy operators in the Regina area, and gives details of the analysis procedure, as well as the approximate level and relative importance of each cost and return item.

A Review of Agricultural Policy in Canada, Drummond, W.M., W.J. Anderson, and T.C. Kerr. Agricultural Economics Research Council of Canada, Ottawa, June, 1966. pp. vii + 78 + appendix. Price: $2.00.

An analytical review and assessment of public programs and policies for Canadian agriculture from the 18th Century to the present day.

Rural Canada in Transition, Tremblay, Marc-Adélard, and Walton J. Anderson, Editors, Agricultural Economics Research Council of Canada, Ottawa, June 1966. pp. xiv + 415. Price: $3.00.

This is a collection of papers presented at a symposium, sponsored by the Agricultural Economics Research Council of Canada, held at Levis, Province of Quebec, November 16 to 18, 1965. The principal theme of the seminar was "change in the Canadian Rural Environment". The publication consists of six chapters, the first five being the main papers.

Chapter titles are: 1. Rural Canada in Transition; 2. A Report on a Survey of Non-agricultural, Semi-agricultural, and Agricultural Centers in Predominately Agricultural Areas in Canada; 3. The Social Consequences of the Modernization of Agriculture; 4. The Farmer as a Social Class in the Prairie Region; 5. The Challenge of a New Rural World; 6. Conclusion.

Conference on International Trade and Canadian Agriculture, The Queen's Printer, Ottawa. Catalogue No. EC 22-766. pp. 486. Price: $3.00.

A report on the conference held in Banff in January, 1966, published jointly by the Economic Council of Canada and the Agricultural Economics Research Council of Canada.

Included in the report are the eight background papers prepared for the conference; a statement by the conference participants; the opening and closing addresses; and an appraisal of the conference by Dr. W.J. Anderson, Director of Research, Agricultural Economics Research Council of Canada.

Background Studies for Resource Development in the Tweed Forest District, Ontario, No. 9. (Economic Growth and Transition), Rodd, R. Stephen, Department of Agricultural Economics, Ontario Agricultural College, University of Guelph, June 1966. pp. v + 48.

This is a detailed analysis of personal incomes, human resources and settlement patterns, changes in agriculture, forest resource and recreation resource use in the Tweed Forest District. The report examines the crucial question of whether additional migration from the District is required if income levels are to be raised, or whether this can be achieved by making better use of area resources.

STATISTICAL APPENDIX

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1965-66

Commodity, grade and market	1965			1966			
	Average	Jul.	Aug.	May	Jun.	Jul.	Aug.
				dollars per cwt.			
CATTLE (weighted average prices at public stockyards)							
Good slaughter steers							
Toronto	24.00	25.31	24.67	25.50	25.11	24.50	24.50
Winnipeg	23.25	24.68	23.96	25.36	24.46	24.10	24.17
Calgary	22.65	23.70	23.33	24.75	24.13	23.52	23.43
Good feeder steers							
Toronto	22.70	23.59	23.50	28.00	28.00	28.00	26.03
Winnipeg	22.05	23.22	22.92	26.25	26.22	24.58	25.93
Calgary	21.95	22.69	22.48	25.65	25.09	23.86	23.37
Good and choice veal calves							
Toronto	30.50	26.92	27.95	35.17	35.03	34.14	33.95
Winnipeg	29.80	28.10	27.23	33.49	36.75	32.24	31.50
Calgary	23.10	24.65	—	—	29.60	27.55	25.14
HOGS (weighted average prices at public stockyards Grade A dressed)							
Toronto	33.40	36.24	36.66	36.83	38.29	35.12	33.98
Winnipeg	31.65	34.69	34.32	35.54	36.35	33.28	34.63
Calgary	28.55	31.07	32.23	33.19	34.66	31.46	33.39
LAMBS (weighted average prices at public stockyards, Good lambs)							
Toronto	26.70	27.08	24.67	29.77	28.46	26.87	23.23
Winnipeg	21.30	22.05	21.30	28.21	28.41	23.78	19.70
Calgary	20.75	21.62	21.13	26.80	25.69	22.08	20.13
FLUID MILK (f.o.b. factory)							
Halifax	5.71	5.71	5.71	6.10	6.10	6.10	6.10
Montreal	5.10	5.10	5.10	5.35	5.35	5.35	5.35
Toronto	5.26	5.26	5.26	5.29	5.29	5.75	5.75
Winnipeg	5.20	5.20	5.20	5.20	5.20	5.20	5.20
Vancouver	6.19	6.14	6.25	6.54	6.56	6.57	6.62
MANUFACTURING MILK (average farm value)							
Nova Scotia	2.74	2.75	2.84	2.67	2.90	—	—
New Brunswick	3.01	2.98	3.01	3.11	3.21	—	—
Quebec	3.05	2.96	2.96	2.94	2.90	—	—
Ontario	2.99	2.83	2.90	3.12	3.02	—	—
British Columbia	3.03	3.04	3.04	3.24	3.26	—	—
				cents per lb.			
BUTTERFAT (for butter, average farm value)							
Prince Edward Island	69.4	69.0	69.0	64.0	63.0	—	—
Quebec	84.7	83.6	83.6	82.3	81.2	—	—
Ontario	73.8	74.1	74.1	71.6	71.9	—	—
Saskatchewan	65.3	65.0	65.1	58.8	58.3	—	—
British Columbia	68.9	69.5	69.5	80.5	80.5	—	—
				cents per doz.			
EGGS (average paying prices at registered grading stations, Grade A Large)							
Halifax	36.3	30.5	40.4	34.8	33.7	39.2	53.4
St. Anselme	35.3	30.1	39.8	42.4	35.6	37.8	53.7
London	35.1	30.8	38.6	40.6	36.5	41.7	53.0
Winnipeg	30.6	27.5	34.2	32.1	31.6	38.7	45.7
Vancouver	36.4	32.5	37.6	35.6	33.0	38.0	43.8
				cents per lb. live			
BROILERS (average prices paid to growers No. 1 grade chicken under 5 lbs.)							
Toronto	18.8	19.0	19.4	20.5	20.5	19.8	20.5
Edmonton	20.5	21.0	21.0	22.5	22.5	22.5	22.1
TURKEYS (average prices paid to growers, No. 1 grade, 12-20 lbs.)							
London	25.4	23.9	24.4	24.5	24.2	23.4	23.7
Edmonton	24.3	23.0	23.5	n.a.	n.a.	n.a.	23.5

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1965-66
(Continued)

Commodity, grade and market	1964–65 Crop Year Average	1965		1966			
		Jul.	Aug.	May	Jun.	Jul.	Aug.
	dollars per cwt.						
POTATOES (Can. No. 1 Table, average prices to growers)							
Prince Edward Island	3.30	6.08	2.82	3.67	2.03	1.37	1.67
New Brunswick	3.05	5.45	1.82	3.13	1.60	—	1.22
Southwestern Ontario	3.17	—	—	3.77	—	—	1.81
	cents & eights per bu.						
EASTERN SMALL GRAINS							
Oats (Ont. No. 2 White, f.o.b. shipping points)	76	78	78	78	78	78	78
Barley (Ont., good malting, f.o.b. shipping points)	143	145	145	145	145	145	145
Corn (Ont. No. 2 Yellow, f.o.b. Chatham, 15% moisture, in carlots)	134/7	151/2	154	143	147/6	148	152
Soybeans (Ont. No. 2, f.o.b. Chatham)	310/3	306/4	285/4	321/5	339/7	364/2	339/7
WESTERN SMALL GRAINS (basis in store Fort William/Port Arthur, less freight and elevator handling charges)							
Red Spring Wheat (No. 2 Nor.)							
Winnipeg	182/3	177/5	177/2	187/4	191	193/6	195/1
Regina and Edmonton	178/7	174/1	173/6	184	187/4	190/2	191/5
Durum Wheat (No. 1 C.W.A.D.)							
Winnipeg	184/1	180/5	180/2	190/7	195/3	205/2	211/6
Regina and Edmonton	180/5	177/1	176/6	187/3	191/7	201/6	208/2
Feed Wheat							
Winnipeg	160/3	155/5	155/2	164/4	168	172/2	174
Regina and Edmonton	156/7	152/1	151/6	161	164/4	168/6	170/4
Oats (No. 1 feed)							
Winnipeg	69/4	71/6	72/5	78	80/6	81/4	81/7
Regina	67/4	69/6	70/5	76	78/6	79/4	79/7
Edmonton	65/4	67/6	68/5	74	76/6	77/4	77/7
Barley (No. 1 feed)							
Winnipeg	110/3	112/3	113/3	115/4	115/5	118/4	122
Regina	107/4	109/4	110/4	112/5	112/6	115/5	119/1
Edmonton	104/5	106/5	107/5	109/6	109/7	112/6	116/2
Rye (No. 2 C.W.)							
Winnipeg	117/5	111/1	116/1	108/6	123/1	127/3	126/4
Regina	114/2	107/6	112/6	105/3	119/6	124	123/1
Edmonton	111	104/4	109/4	102/1	116/4	120/6	119/7
Flaxseed (No. 1 C.W.)							
Winnipeg	311/5	303/5	298/4	284/1	285/2	287/1	292
Regina	308/3	300/3	295/2	280/7	282	283/7	288/6
Edmonton	304/7	296/7	291/6	277/3	278/4	280/3	285/2

Publications

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CANADIAN FARM ECONOMICS

COMMODITY REVIEW

AGRICULTURAL OUTLOOK, CANADA 1967

World economic growth strengthened late in 1965 and in the early months of 1966, strongly influenced by a marked acceleration in the pace of business in the United States and Canada. Despite a significant loss of momentum in subsequent months, the trend of world production and trade has continued to move moderately higher.

While there are more uncertainties in the current situation than for some time, the prospect for the industrial countries as a whole is for moderate growth to continue in 1967. Continued growth by the industrial countries should help to sustain or increase the export earnings of primary producing countries but recent movements of basic commodity prices suggest that the increase in the contribution of primary exports to the foreign exchange holdings of these countries is likely to be quite modest.

Canadian economic activity is expected to increase again in 1967 although a more moderate rate of real growth, compared with 1966, is indicated. The basic factor behind the expected more moderate rates of real increase is that the economy is now effectively fully employed and cannot readily draw on slack resources for expansion. In view of this situation pressures on wages and prices may be a matter of continuing concern.

Canadian exports should remain firm and possibly strengthen on the basis of a continuing strong demand situation in most of the industrial countries. Longer run contracts to supply large quantities of wheat to Communist countries provide an important additional measure of stability to the Canadian export trend.

In 1966, farm cash receipts are expected to reach the $4 billion mark for the first time. This compares with the previous high of $3.8 billion in 1965. Of all the commodities contributing to the gain in total cash receipts, wheat is the most important.

Farm operating expenses and depreciation charges continued to move upward in 1966. However, the gain in total cash receipts is expected to more than offset the rise in operating expenses so that realized farm income is expected to be higher in 1966 than in 1965. After allowing for inventory changes, total farm net income may reach close to $2 billion as against $1.7 billion in 1965.

As a result of the high demand for workers in other industries, this year saw a sharp decline in the number of workers engaged in agriculture. The farm labor force declined to 7.7 per cent of the total labor force compared with about 9 per cent a year earlier and 11 per cent five years ago.

Total cash receipts from farming operations in 1967 are expected to be about equal to, or slightly higher than in 1966. However, farm operating expenses will continue to rise so that realized farm net income may be approximately equal to or even slightly lower than the level estimated for 1966.

GRAINS AND FEEDS

Situation

In 1966 new production records were established for wheat, barley, grain corn, soybeans, rapeseed and tame hay. Yield per acre was at record highs for wheat, barley, corn, soybeans and tame hay.

Acreage, yield and consequently production of wheat set records, and the 844 million bushels harvested, added to the carryover stocks of 422 million, provided an all-time record supply of 1,266 million bushels.

The sales outlook for Canadian wheat is excellent. Total exports could be about 530 million bushels. Domestic disappearance will likely be in the neighborhood of 155 million, making the total disappearance some 685 million bushels. This means, then, that by the end of the crop year on July 31, 1967, the carryover stocks will have increased to 580 million bushels, which by former standards would appear to be on the high side but now not considered alarming.

The price of No. 1 Northern, in store at the Lakehead, has been over $2.00 per bushel since the beginning of last February and for the past several months

CORRECTIONS

GRAINS AND FEED, page 1, Volume 1, Number 4, October 1966:

(*a*) paragraph 2, line 3, read: "mid-July" for "mid-August",
(*b*) paragraph 4, line 20, read: "decreased" for "increased".

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has been above $2.10 and edging upwards toward the International Wheat Agreement ceiling of about $2.18. The current IWA expires at the end of this crop year. At the moment the situation is too obscure to predict either the 1967 price level or whether or not there will be a replacement for the current Agreement.

Outlook

Be that as it may, the prospects are for continued high exports, ranging between 475 and 550 million bushels per year until at least 1970. Thus, production will have to average from 625 to 700 million bushels annually, and this can be done on 30 million acres if yields average 21 to 23 bushels per acre—considerably below the 1966 record of 27.9 bushels.

Canadian feed grain supplies are at record high levels this season—some 5 per cent larger than a year ago. Exports can be expected to remain at the level of the past two years, and domestic use will about equal last year's level. Consequently total utilization will be about the same as in 1965-66. However, because of the higher production, carryover stocks by July 31, 1967 can be expected to increase to about 6 million tons (4.7 million at Aug. 1, 1966). This volume will provide a comfortable cushion for 1967-68 and may well be influential in discouraging any acreage expansion in 1967, particularly in the Prairie Provinces.

Prices of feed grains have been creeping upwards during the past ten years, with oats and corn following the same trend line. The increases in both feeding wheat and barley prices have been much sharper. These trends are expected to continue through the current crop year, with oats, corn and feed wheat prices moving relatively faster than barley prices.

Oats supplies are some 35 million bushels below those in 1965-66 and a considerable reduction in carryover stocks next July can be looked for. Barley supplies are 385 million bushels, a record high level, and 1967-68 carry-in stocks will likely also be at a record high. A possible switch from oats to barley use would ameliorate both situations.

Corn production topped the 60 million bushels mark for the first time, with new records set for both acreage and yield. Domestic disappearance is expected to reach a new high in 1966-67.

FRUITS AND VEGETABLES

Situation

The 1966 apple harvest in Canada was almost 20 million bushels or about 11 per cent less than last year (22.3 million bushels), which was the second largest crop ever produced in Canada. The British Columbia crop at 6.8 million bushels is more in line with the 1961-65 average and is much greater than the 1965 crop, which was considerably lower because of the 1964-65 winter damage. However, the Quebec crop is much smaller than the record of last year and the reduced production in Nova Scotia about offsets an increase in Ontario.

The volume of export trade in fresh apples has been maintained in most recent years. There has been increasing production in Europe of North American varieties.

Canadian production of other fruits in 1966 was larger than in 1965 with the exception of sour cherries, raspberries and grapes. There was a slight increase in the contracted acreage of beans, and corn was substantially higher. The 1966 tomato crop was well below processors' requirements. The minimum prices for processing vegetable crops were generally higher this year.

Potato production in Canada during 1966 is estimated at 57 million hundredweight and this represents the highest annual production obtained during the past four decades. This was a result of increased acreage and yields. The acreage entered for certification was 86,000, the highest on record. The export demand for table potatoes fluctuates widely from season to season. Seed potato exports, which have been growing over the years, are relatively constant.

Outlook

During 1966-67, keener competition in the British apple market is expected from European producers. This competition is expected to increase in future years and if Canadian exporters are to maintain their position on the United Kingdom market, extreme care must be exercised in the selection of apples for export. A reopening of some old markets and an expansion of some smaller markets in other parts of the world is expected during 1966-67.

The upward trend in the export of frozen vegetables is expected to continue in 1966-67. With a smaller pack of canned tomato juice and sour cherries this season, exports of these items are likely to decline. The prospects for potato exports indicate a fairly stable market exists for a relatively small volume in the Caribbean. Additional movement depends upon the demand from the United States, various South American countries and occasionally Europe. There is a greater North American supply of potatoes which suggests that prices in Canada during 1966-67 may average below last year.

TOBACCO

Situation

The Canadian tobacco acreage in 1966 was 130,175 acres. This was 31 per cent higher than in 1965 but less than 1 per cent above the 1959-63 average. Total acreage of flue-cured tobacco, the most important type, rose to 124,136 acres in 1966 from 93,523 acres in 1965 because of an increase in the Ontario acreage.

Due to extensive frost losses in Ontario, the 1966 Canadian production of flue-cured tobacco will be limited to approximately 203 million pounds, green weight basis. Domestic manufacture of cigarettes in 1965 was nearly 6 per cent higher than in 1964. Export demand for Canadian flue-cured tobacco is strong. United Kingdom buyers have an arrangement with Ontario growers to purchase 55.5 million pounds, green weight, from the 1966 crop. With the increase in demand for flue-cured tobacco and stocks currently at their lowest level since 1960, the supply situation appears to be critical.

Outlook

The domestic consumption of flue-cured tobacco is expected to increase at the rate of 5 to 6 million pounds, redried weight, each year during the next three or four years. There is an opportunity to expand exports to considerably higher levels than in previous years if a supply of high quality, competitively priced tobacco can be assured. The current situation indicates that a production of approximately 250 million pounds, green weight, of flue-cured tobacco will be needed in 1967 to satisfy the potential demand and build up stocks to about a 16-month supply.

SUGAR BEETS

Situation

The acreage of sugar beets in 1966 was 82,300 acres, about 3,000 acres lower than in 1965 and 19,000 acres below that of 1964.

The crop was again supported at $14.35 per standard ton, with world sugar prices running below those of a year earlier when a support payment of $3.15 per ton was made. Domestic sugar prices have been about $1.00 per hundred pounds lower than last year and consumption has been up about five per cent. World sugar production is still running ahead of consumption although the gap has narrowed.

Outlook

There may be some increase in sugar beet acreage in Manitoba and Alberta in 1967 and population growth with its increased demand, should lead to higher production levels in the longer run. Further acreage recovery in Ontario may result from continued efforts by growers and processor. Little change is expected in Quebec.

DRY PEAS AND DRIED BEANS

Situation

Production of dry peas in 1966 is expected to be lower than in 1965 because of lower yields in Manitoba and in spite of increased acreage in that province. There was practically no summer carryover of yellow peas in 1966 and export prices have been set at the highest levels since 1960.

The 1966 acreage of beans increased by 4,900 acres to a total of 90,700 acres, continuing the rising trend of recent years. However, this increase was largely offset by lower yield so that total production may be little changed from that of last year. Domestic consumption is relatively stable while exports have been expanding rapidly in recent years.

Outlook

A strong market for dry peas indicates that the 1966 crop will find markets without difficulty. Increased production in 1967 and in the following two or three years seems warranted.

The demand for white beans in Britain is strong and exports could be greatly expanded if production can be increased in Canada. Prospects for red kidney beans in the Caribbean are also considered good. Prices are expected to remain firm.

CEREAL, OILSEED AND FORAGE CROP SEEDS

Situation

The combined inspected acreage of wheat, oats and barley in 1966 was more than in 1965. Estimated production is 35 per cent larger. The increase of Manitou highlighted seed wheat production. From about 200,000 bushels of Manitou in 1965, less than 3 per cent of total seed wheat production, the variety was multiplied in 1966 to an estimated 5 million bushels—more than half of the total pedigreed wheat crop.

The increase in pedigreed oat production was mainly due to a substantial increase in both acreage and production in Ontario. Production of Garry accounted for about half of the total crop. Production of the new variety Harmon, mainly in the Prairies, was estimated at about 600,000 bushels, while estimated production of the new lodge-resistant variety Stormont in Ontario was placed at about 100,000 bushels.

The barley variety Conquest released for multiplication in 1965 was estimated at about 2.25 million bushels; over 60 per cent of the total barley crop.

Estimated production of flax is less than in 1965 but the quality of the crop is quite good. Rapeseed acreage was more than 50 per cent larger than in 1965 but estimated production is only 30 per cent cent higher.

Acreage of hybrid corn seed in Ontario amounted to nearly 11,000 acres, the largest ever.

Production of the legume seed crops is expected to be less that in 1965. A record crop of timothy seed highlights production of the grass crops. Acreage of the timothy variety Climax amounted to 44,000 acres, an increase of 7,000 acres over 1965. Production of the other grass crops, except meadow fescue, was smaller than in 1965.

Outlook

There should be adequate supplies of the principal varieties of wheat with the exception of Manitou. Although production of Selkirk, Pembina and Canthatch was down, it is expected there will be less demand for these varieties which will be supplanted by Manitou. The increase in production of Manitou seed, in the second year since release, while great, is still far short of expected Canadian seed needs in 1967. As a result, the current restrictions on exports will continue until after the 1967 seeding. However, it is anticipated that the 1967 Manitou seed crop will produce adequate supplies to meet all requirements in Canada and provide seed for export. It is expected there will be a strong market for this variety in the United States for seeding in 1968. No supply difficulties are expected for the 1967 planting season for oats, barley, flax or soybeans, however seed supplies of rape may not be sufficient to meet the demand if the present attractive price for commercial rapeseed continues.

The market in general for forage seeds is not as active as a year ago and prices to growers for most kinds are lower than in 1965. The market for Canadian commercial forage seed in Europe continues to be affected by import restrictions against non-certified seed set up by some European countries. Retail prices for the 1967 planting season are likely to be lower for timothy, meadow fescue, creeping red fescue and alsike, and higher for bromegrass and crested wheat grass. Alfalfa and double-cut red clover prices will probably be as high or higher than in 1966. No shortage of the principal kinds is expected.

The multiplication of foreign varieties in Canada for export under the OECD Herbage Seed Scheme was increased and provides a means of replacing traditional exports of commercial seed with Certified seed of varieties acceptable in Europe.

LIVESTOCK AND MEAT

Situation

Hog gradings in Canada in 1966, to the end of October, averaged 129,300 head per week, a decline of 6.6 per cent from last year. To the end of September 1966, inspected slaughter in the U.S. was down 5.3 per cent from the same period last year. In both Canada and the United States the upward trend in hog prices that occurred in 1965 continued into 1966 and remained at very high levels during the first two months. Beginning in March the trend of prices in both countries has been downward. For the month of February 1966, Grade A carcasses at Toronto averaged $43.19 per hundredweight and by October dropped to $33.94, compared with $35.90 for October 1965.

The inspected slaughter of cattle in Canada to the end of October 1966 averaged 52,000 head per week, an increase of less than one per cent over the same period last year. In the U.S., inspected slaughter to the end of September is estimated to be 4 per cent above year ago levels. In Canada, inspected slaughter has been below year ago levels since May and in the U.S. since August. The decline in both countries is primarily due to the reduction in cow and to a lesser extent heifer slaughter.

In Canada the gradings of choice and good carcasses combined, averaged to the end of October, 27,366 weekly, 3.2 per cent above the same period in 1965. This volume has been sufficient to keep fed cattle prices at slightly above the export basis until September when the price of choice steers at Toronto increased and averaged $27.24 per hundredweight ($25.67 last year), while at Omaha in U.S. dollars, choice steers averaged $25.54 for September ($26.19 last year).

Compared with a year ago, there are two major changes indicated in feeder cattle prices. They are considerably higher, and the price differential between feeders and fed cattle is substantially less. For the month of October 1966, choice steers at Calgary averaged $25.22 ($23.70 last year) with good feeder steers averaging $25.00 per hundredweight ($22.09 last year).

Outlook

Hog marketings in Canada and the United States in 1967 will average considerably above the levels of 1966 although gains are expected to be moderate by mid–1967. Hog prices in Canada in 1967 will average below 1966 price levels and continue to reflect the hog situation in the United States. Winter prices in Canada will stay close to fall levels but substantially below the record high levels of a year ago. Spring prices may show some improvement followed by a summer peak. Price levels in the fall of 1967 are expected to be lower but not greatly changed from the fall of 1966.

In Canada the supply of fed beef in 1967 is expected to be about the same as in 1966, while in the U.S., fed beef supplies, although heavy in the first few months, are expected to average below 1966 levels.

Total slaughter (fed plus non-fed beef) in both countries in the next two to three years will no doubt be below levels of 1965 and 1966. In Canada and the U.S., cattle numbers on farms declined in 1966 after seven consecutive years of increase. The reduction in numbers primarily reflects the substantial rise in cow and heifer slaughter that occurred in 1965 and into 1966. The next two to three years will be a period of rebuilding herds, and this requires keeping breeding stock off the market. In 1967, cattle prices in Canada are expected to average above 1966 levels. Depending upon the domestic disappearance of beef in Canada, there may not be sufficient cattle on feed to keep price levels at Toronto in 1967 at, or close to, the "export basis" for as long a period (about 7 months) as was the case in 1966.

DAIRY PRODUCTS

Situation

The 1966 national dairy herd was the smallest in the past 46 years. Milk production continued to decline for the third consecutive year to 18.2 billion pounds. Total fluid consumption is estimated at 6.1 billion pounds. For the fourth consecutive year the production of creamery butter declined, to close to 330 million pounds, while consumption is likely to take about 353 million pounds. In response to demand, milk was diverted into cheese. Cheddar cheese production is estimated at 167 million pounds. Little change is seen in the production and consumption of evaporated milk, but dry skim milk production is estimated at approximately 253 million pounds of which about 153 million will be used domestically. Exports in 1966 are expected to exceed 70 million pounds.

Outlook

No major changes in the number of dairy cattle on farms and a continuing labor shortage suggest little change in milk production in 1967. Consumption of milk in all forms, however, should benefit from the influx of tourists during the centennial year, which is expected to halt temporarily the decline in per capita consumption. Total fluid milk and cream consumption is forecast at 6.1 billion pounds. Production of cheddar cheese is expected to rise to 170 million pounds. While little change is likely in the production of evaporated milk, the output of dry skim milk may be expected to reach 265 million pounds. Of this quantity, domestic consumption is likely to take about 150 million pounds which would leave substantial quantities for export. Production of creamery butter in 1967 may be similar to that in the previous year. Under present market conditions the consumption of creamery butter is likely to be maintained close to the level of 1966.

EGGS AND POULTRY

Situation

Strong egg markets prevailed in Canada during 1966, being the result of slightly reduced egg marketing during the first eight months of the year. The decline in egg production in 1966 was due to smaller pullet placements in the first half of 1965, a period during which egg prices were exceptionally low. This subsequently resulted in egg supplies being very short during the last months of 1965, and this situation prevailed during the first ten months of 1966.

Rising egg prices since mid-1965 have encouraged a slightly higher trend in pullet chick placements during the past 15 months.

The increased rate of pullet chick placements in 1966 indicates that layer numbers will rise to 25 million by May 1967, about in balance with the market requirements for shell eggs.

On the record of past experience, high current egg prices would have induced even larger increases in chick placements, but the pressure of increased costs has provided a partial restraint. Feed, housing, credit and labor costs are up from last year.

The rate of growth in the poultry meat industry accelerated in 1966, mostly due to the relative shortage and high prices of red meats. As a result, poultry meat production supplied a greater share of the total meat market in Canada in 1966. Producer price levels were slightly above a year earlier due to the strong overall demand for meats.

Most of the expansion in broiler chicken production in 1966, occurred throughout Western Canada, Quebec and the Maritimes with increases averaging about 17 per cent, totaling about 12 million birds, compared with Ontario's six per cent rise, about three million more than were grown in 1965.

Feeding costs have risen still further, due principally to higher protein feed prices; housing, credit and labor costs are also up.

The sharp expansion of turkey production in 1966 was confined to Eastern Canada and British Colombia. In the Prairie region, the three per cent drop in poult placements was due to the decline in small flock production. Fewer producers are raising more birds per farm each year. In Eastern Canada and British Columbia, the growing of broiler turkeys on a year-round basis expanded about 30 per cent this year compared with a 16 per cent rise in heavy turkey production in those regions.

Outlook

As this year's larger crop of pullets get into production this fall, egg marketings will begin to rise and will slightly exceed year earlier levels. By December, weekly egg gradings at registered stations will likely average about five per cent larger than a year earlier.

Egg marketings in early 1967 will continue to rise because larger pullet chick placements this summer and fall will be coming into lay at that time. Due to increasing egg production, egg prices during late 1966 and early 1967 will average under the high levels of a year earlier. Any further expansion beyond normal replacement will likely result in surplus production and depressed markets in the second quarter of 1967. Profit prospects for egg producers in 1967 are less favorable than a year ago because egg prices will likely be lower and costs of production higher.

The rate of growth in the broiler industry in 1967 will likely slacken because profit prospects are not as favorable as during the past year. More competition this winter from larger supplies of pork and turkeys is expected, but this will be offset to some extent by less beef. The quota control powers of broiler chicken marketing boards might also exert a restraining effect on over-production in those provinces where boards administer that power.

The 1967 outlook for turkeys is very similar to the situation confronting broiler chicken producers. Profit prospects are less favorable because production costs are up and the price outlook is less strong than a year ago. However, broiler turkey production will likely continue upward in 1967 because many new barns have been built in Ontario and in British Columbia in the past year.

Outlook to 1970—The total demand for eggs will increase at about the same rate as population because a level trend in per capita egg consumption is expected to prevail. Flock productivity will continue to advance, but more slowly than in past years. As a result, by 1970 about 26 to 27 million layers, only one or two million more than at present, will be sufficient to produce Canada's shell egg requirements.

Production of poultry meat by 1970 is expected to increase to about one billion pounds. Further improvements in feed and labor conversions, especially as a result of better disease control, are expected to partly offset the rising costs of supplies and services. As a result, poultry meat prices will maintain and may improve their competitive position in relation to red meats.

Consumption of chicken per capita by 1970 will likely reach 32 pounds compared with 28 pounds in 1966. Increased production of broilers and roasters will supply all of the growth in market requirements by 1970.

Turkey consumption per capita by 1970 will probably rise to about 12 pounds from 10.5 pounds in 1966. Broiler turkey consumption per capita is expected to reach 5 pounds, and developments in further procesing and institutional feeding will expand the demand for heavies.

Although much uncertainty prevails with respect to organizational changes taking place in the egg and poultry meat industries, some observations are possible. It appears that a few private and co-operative marketing organizations will control an increasing share of the volume of egg and poultry meat production and distribution in Canada. Most of the product will be produced either under contract with the marketer, or directly by the integrated organization. However, although corporate production may increase, farmers will likely retain ownership of the major portion of production facilities, but an increasing proportion will likely accept an agency position under the growout contract. Under this arrangement, the grower provides housing, equipment and labor and the integrator provides stock, feed, medication and has title and control of product.

The role of producer marketing boards in the industry structure continues to evolve. In several provinces, broiler chicken marketing boards have adopted the device of quotas as part of an orderly marketing plan. One objective of producer boards with quota control powers is that the traditional system of widespread ownership and control of production facilities by producers will be retained. However, some observers of the industry have noted an accelerated pace toward integration following the introduction of producer boards with quota powers.

WORLD AGRICULTURE IN 1966

E. Jaska

Production

World agricultural production in 1965-66, excluding Mainland China, rose less than one per cent over 1964-65, and there was no change in total world food production (*1*). Production of wheat, barley, rice, sugar, apples, groundnuts, cocoa and tobacco declined by between four and eight per cent. For most other agricultural products, such as meats and dairy products, there was a small rise and, for olive oil, soybeans and coffee, increases ranged from 15 to almost 50 per cent. Agricultural output increased in North America, Western Europe, Latin America and the Near East but declined in the Far East and Africa. In Eastern Europe including the Soviet Union, agricultural output in 1965-66 remained at the 1964-65 level. Food production increased in North America and Western Europe but declined in other regions.

During the last 15 years, the average annual growth rate for agricultural production has been 2.7 per cent in the world as a whole. However, much of the increase in agricultural production has taken place in the developed countries (North America, Western Europe, Eastern Europe and Soviet Union, and Oceania), where new techniques have led to a production explosion. In these countries, there has been a marked increase in production of all staple crops—wheat, feed grain, cotton, oilseeds—and of livestock products. In the developing countries (Latin America, Far East, Near East and Africa), there has been a somewhat comparable increase in agricultural production in the last 15 years, but much of this has been due to increased output of special export crops such as coffee, cocoa, cotton, sugar and bananas.

The other main development since 1950 is the fact that agricultural and food production in the developing countries is not keeping pace with the growth in their populations. Since the rate of growth of population has been more rapid in the developing countries than in the developed countries the annual per capita increase in total agricultural production has been about one per cent a year in the developed countries compared with only 0.4 per cent in the developing regions. A look at per capita increases in food production alone shows the difference is even greater, 1.2 per cent compared with 0.2 per cent. In addition to this slow rate of growth, the encouraging advances in per capita food production recorded in the developing countries during the 1950's have been reversed in

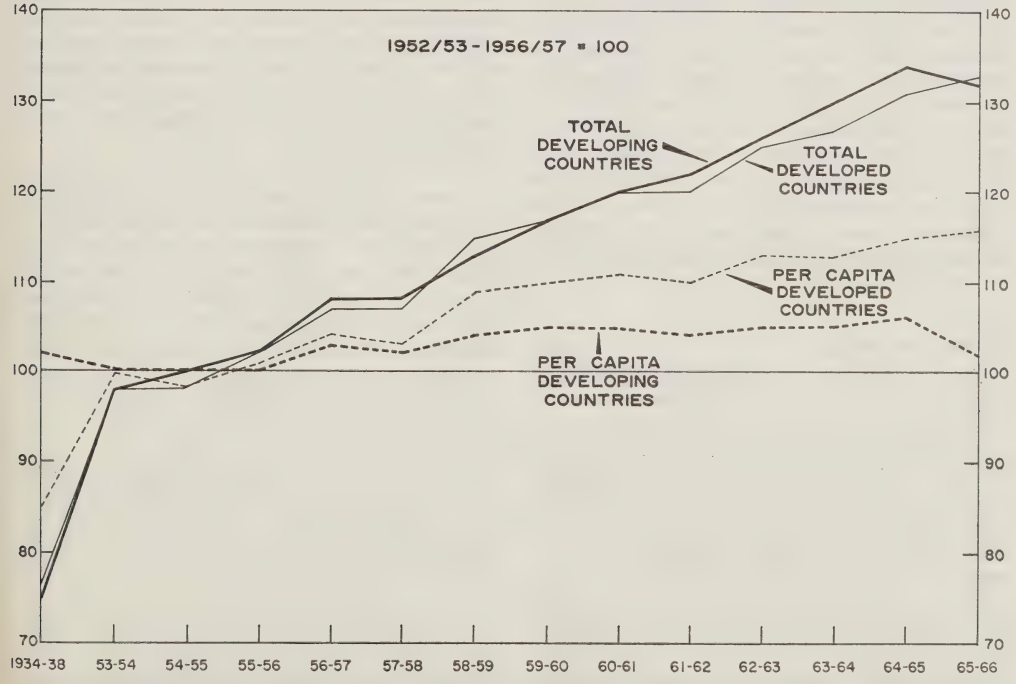


FIGURE 1.—INDEX OF FOOD PRODUCTION: PER CAPITA AND TOTAL, BY REGIONS, AVERAGE 1934-38 AND ANNUAL 1953-54 TO 1965-66

many cases during the present decade. In 1965-66, for instance, per capita food production in the developed countries increased by about one per cent but declined in developing countries by about five per cent. In the Far East, Latin America and Africa, per capita food production in 1965-66 was lower than the inadequate prewar output. Per capita food production in the world as a whole in 1965-66 was two per cent lower than in 1964-65.

The forecast of the world's food supply in 1966-67 places it slightly higher than in 1965-66. World production of breadgrains in the 1966-67 crop year is expected to set a new record, exceeding the previous record output of 1964-65 by one per cent. World wheat production is forecast at 259 million metric tons (9.5 billion bushels) compared with 245 million tons (9 billion bushels) in 1965-66 and the previous record of 255 million tons (9.4 billion bushels) in 1964-65 (*2*). Therefore, there is a possibility that world stocks of wheat may rise slightly by the end of the 1966-67 season. Prospects for rice production are much better than in 1965-66. World production of oilseeds, oils and fats has trended upward since 1959, and a further slight increase to a record 38 million tons is expected in 1966-67. Increases in production of edible oils, animal fats, and palm oils are probably offset by declines in marine and industrial oils.

World milk production as a whole continues to increase in 1966-67 although there is a slight decline in output in North America. Increased milk output in Western Europe is raising production of the principal manufactured dairy products, and the 1966-67 production of butter and non-fat dry milk likely will exceed the record output of 1965. World meat production is also expected to increase in 1966-67. The cyclical increase in beef production in Western Europe is gaining momentum, particularly in the European Economic Community. However, hog slaughterings in the EEC will likely decline in 1966-67.

Changes in Stocks

The year 1965-66 witnessed some important developments in the world stock situation. On July 1, 1966, grain stocks in the four principal exporting countries, United States, Canada, Argentina and Australia, were 14 per cent below the level of a year earlier. Stocks of wheat, rye, barley, oats and corn in those countries totalled 98.4 million metric tons, the lowest for more than a decade. Wheat stocks in 1966 declined to 33.5 million tons (1.2 billion bushels) or by 31 per cent, the lowest level since 1952, reflecting mainly the large import requirements of India, the USSR and Mainland China. All countries shared in the decline although the Canadian change was relatively small. Rye, barley and oats each showed gains of six per cent, while corn stocks declined less than one per cent. In addition to the five grains, the United States, stocks of grain sorghum totaled 13.6 million tons, while Argentina held 1.5 million tons.

Stocks of coffee, sugar, cocoa and cotton increased further in 1965-66, reaching postwar record levels in the case of coffee, sugar and cotton. Stocks of coffee held mainly by exporters (particularly Brazil), rose by almost 20 per cent, and stocks of sugar, which had almost doubled in the preceding year to 15 million tons, increased still more in 1965-66. Cotton stocks, too, reached a new postwar peak in 1964-65 and a further increase is expected in 1965-66, to some 6.25 million tons. World stocks of butter, however, declined in 1965-66. On July 1, 1966 butter stocks in North America amounted to about 144 million pounds or 50 per cent below the 1965 level. However, in Western Europe stocks of butter on July 1 were at a record level of 586 million pounds, compared with 542 million a year earlier. Nearly 60 per cent of the 1966 European butter stocks were in the EEC, principally France and West Germany.

Trade

International trade in farm products, which had shown an upward trend since 1958, did not make much progress in 1965. The 1965 volume of world agricultural exports (excluding exports from centrally planned countries), remained at the 1964 level, but the value declined by two per cent. Some increase was registered in world exports of coarse grains, oilseeds and vegetable oils, fruits, meats, dairy products, sugar and coffee, whereas exports of wheat, cotton, jute, and beverages declined.

The volume of world exports in farm products in 1965 was about 65 per cent above the prewar average, and most of this increase occurred since the mid-50's. The expansion of international trade in the latter half of the 1950's was largely influenced by the massive movement of agricultural products on concessional terms, mainly through the United States P.L. 480 program, to developing countries. In the first half of the 1960's, however, the level of world agricultural exports was mainly maintained and raised by the large purchases of wheat by Mainland China and the Soviet Union (*3*).

In 1965, the volume of agricultural exports increased from Western Europe, Latin America and Africa but declined from the Far East and North America. The fall in agricultural exports from North America mainly reflected the reduction in United States government-financed shipments. Most of the reduction was accounted for by wheat with smaller reductions in the shipment of cotton and dairy products. The share of government-financed exports in total wheat shipments declined to 67 per cent from 70 per cent in 1964 (*4*).

In 1965, imports of agricultural products into all of the developed regions increased by about three per cent. Japan's imports, which now exceed those of all the rest of the Far East combined, increased by nine per cent. The imports of Western Europe continued to rise at about the same average rate as in recent years, some three per cent a year. There was a slight increase in the imports of North America (two per cent) and of Oceania (five per cent). Among the developing regions the picture was more varied. In contrast with past trends, the imports into Latin America and the Far East other than Japan remained unchanged in 1965. Imports of agricultural products into the Near East and Africa, however, rose by five and seven per cent respectively. The total volume of world agricultural imports (excluding the Soviet Union Eastern Europe and Mainland China) increased by three per cent over 1964.

Preliminary data indicate that in the first half of 1966 the value of world trade in agricultural products (non-food as well as food) was slightly higher than in the corresponding period of 1965. Higher average prices were a contributory factor.

Price Trends

The fall in the average world market price of agricultural products that started in early 1964 continued through most of 1965. The 1965 index of export prices for agricultural products of primary producers declined by about 13 per cent from the 1964 level (5). Products whose prices rose included most coarse grains (except sorghum), the demand for which continued to rise, especially in Western Europe, and most major fruits (except bananas), whose prices benefited from the cold spells that affected the output of oranges in Spain and from the heavy demand for apples in European importing countries. Most vegetable oils were expensive, as exportable supplies were down. Meat supplies for export were also scarce, and most meat prices rose. Butter prices were somewhat lower than in 1964 but most other dairy product prices were substantially higher, especially those of powdered milk. In 1965, sugar prices reached the lowest level for a quarter of a century and averaged only two cents a pound, compared with over eight cents in 1963 and nearly six cents in 1964. The price for cocoa also fell steeply to reach the lowest postwar level in

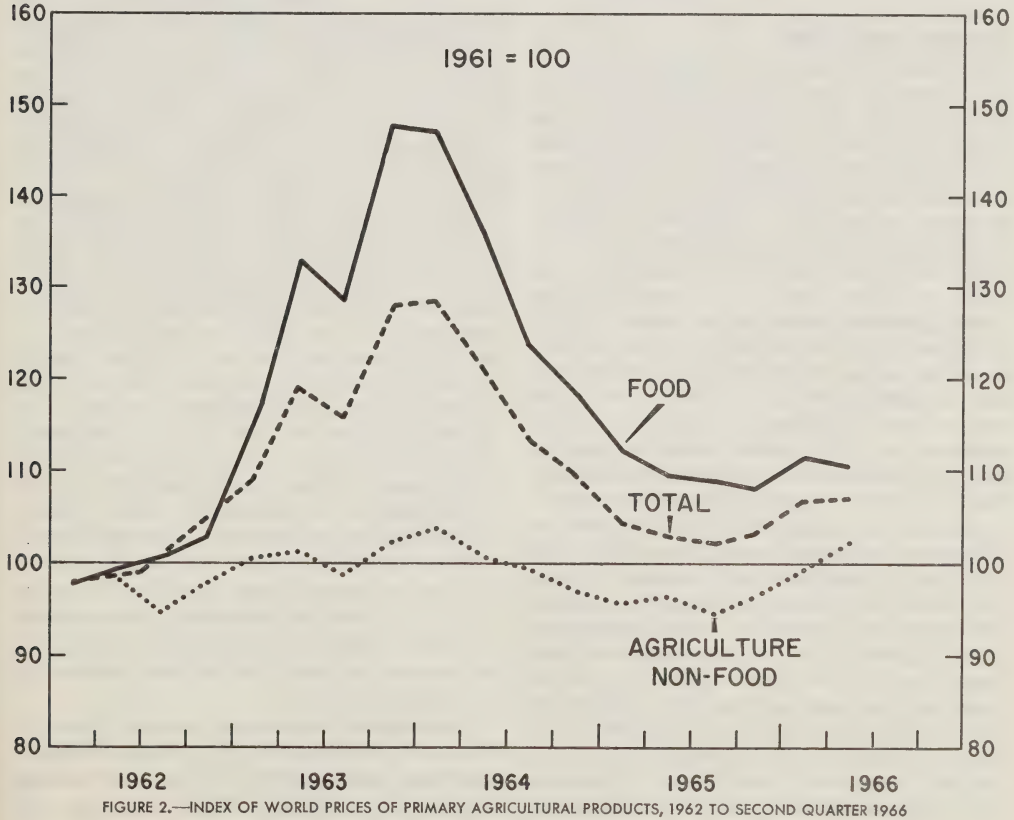


FIGURE 2.—INDEX OF WORLD PRICES OF PRIMARY AGRICULTURAL PRODUCTS, 1962 TO SECOND QUARTER 1966

the middle of the year. The average world price for wheat declined by seven per cent, and the prices of several types of wheat dropped near their minimum levels under the International Wheat Agreement.

In the first half of 1966, the index of world export prices for primary agricultural products strengthened and exceeded slightly (three per cent) the level of the corresponding period in 1965. Prices for grains and meats showed an upward trend while prices for dairy products, sugar and oilseeds declined.

Prices received by farmers rose in 1965 in almost all the countries (most of them developed) for which data are available. In general, the greatest increases were in prices of livestock and horticultural products, and there were only moderate increases in grain prices. Producer prices in the EEC were raised as part of the gradual harmonization of agricultural prices. In France, where the level of grain prices was lower than in the other EEC countries, the upward adjustments were greatest, while in West Germany the level of grain prices remained the same as in the previous year. Guide prices for cattle and target prices for milk were also raised in most of the EEC countries.

Programs and Policies

Government planning of economic and social development has been one of the characteristics of the last decade. The agricultural objectives of the development plans are generally derived from such overall objectives as increasing the national income, improving the balance-of-payments or increasing employment. In general, the main agricultural objective in developing countries is simply to increase production as rapidly as possible. This is true also for the USSR and Eastern Europe. The overall target for Soviet agricultural production, for instance, calls for an increase of 25 per cent during the 1966-70 period above the average for 1961-65. The 1970 grain production target is now set at 180 million metric tons compared with 230 million tons projected in the long-term plan. Few plans in other countries acknowledge needs for nutritional improvements or the development of industries using agricultural raw materials.

There has been a notable change in emphasis on agricultural investment in recent years. Many of the early plans allocated insufficient resources to agriculture. There was a tendency to assume that economic development was synonymous with industrialization. Many of the early plans in agriculture placed heavy emphasis on large scale projects such as irrigation and settlement. The results of some large scale projects have been disappointing. More recognition is now being given to the need to influence the production decisions of individual farmers and of the essential role of research, training, extension and institutional reforms. There is a growing tendency in some countries to concentrate investment in limited areas instead of spreading resources too thinly.

In the national development plans initiated in 1965 and 1966, fertilizers and other physical requisites for expanding agricultural production and productivity have received increased attention in some countries. In India's Fourth Five Year Plan, (1966-1970) the programs and policies for transforming the country's agriculture have been given top priority. The Fourth Plan aims at an annual rate of growth of about five per cent in agricultural production. Emphasis is on intensive use of fertilizers and high-yielding varieties of seeds to increase grain output during the five-year period. To increase fertilizer consumption in India, new concessions have been given to foreign private capital in order to step up domestic fertilizer production. In Latin America, the Inter-American Committee of the Alliance for Progress has begun a program to promote the production and consumption of fertilizers. In the Soviet Union, where the problems are similar to that of developing countries the supply, of mineral fertilizers is to be raised to 55 million tons by 1970 from 31 million tons produced in 1965. The Soviet Government also plans to raise its investment in agriculture from the 1964 rate of nine billion roubles to an average of 14 billion roubles a year for the next five-year period (*6*). The production of tractors is to be almost doubled to 625,000 a year by 1970, and agriculture is to receive 1,790,000 tractors and 1,100,000 trucks during the period.

In 1965-66, some fundamental policy changes occurred in some developed countries. The United States, for instance, took measures to encourage a selective expansion in agricultural output. These include raising the support price for milk and soybeans, increasing by ten per cent the acreage allotment for rice, withdrawing the incentive for additional acreage diversion of land from spring wheat and increasing the 1967 national acreage allotment for wheat by 30 per cent to 68.2 million acres. The U.S. Department of Agriculture has estimated that as a result of the larger acreage allotment wheat production in the United States in 1967 could rise to 1.6 billion bushels, about 300 million bushels more than the 1966 output. Additional measures have also been taken to increase U.S. feed production. There were no radical policy changes in Western Europe but all countries continued to promote efficiency in agriculture, including the improvement of farm structures, farm organization and farm management.

The increasing emphasis on structural policies in Western Europe is evidenced by a number of specific steps taken during 1965-66. Norway, in introducing guidelines for future agricultural policies, has put

greater stress on the enlargement of holdings and on structural rationalization. In Sweden, the proposals of the Royal Agricultural Committee advocate a relaxation of price supports and a further shift to structural improvements and measures of rationalization. Legislation was passed in West Germany in 1965 to provide funds for promoting the structural changes needed in agriculture to adjust to conditions of an integrated common market. In France, the Fifth Economic and Social Plan continues to aim at the modernization of agricultural structures and the improvement of agricultural incomes per holding. The new Italian Green Plan also puts special emphasis on the improvement of farm structures.

In Britain, where schemes for small farms are already in operation, efforts to improve the size structure of farms were intensified in 1965. The Government has proposed that grants be provided for amalgamation and the State given the opportunity to purchase land directly until such time as it can be resold for amalgamation. Where enlargement is not possible and co-operation would not be helpful, small farmers are encouraged to retire or resettle in non-agricultural employment.

Structural improvements require not only considerable public funds but large investments by the farmers themselves. The provision of agricultural credit therefore is emphasized in all countries. France's existing credit scheme was improved in 1965. In Switzerland, the funds available for investment credits were doubled in 1966. In Britain, the farm improvement scheme is to be extended with some modifications, and tax concessions for investments are to be replaced by outright grants. In Denmark, it has been proposed to give financial assistance to new farms by introducing advantageous loans.

Programs to relieve the financial problems of farmers in case of natural catastrophes are also being widened. In addition to the measures taken earlier by France, Italy took steps to help farmers in 1965, Greece has improved the insurance against frost and hail damage (for which farmers no longer have to pay contributions), in Belgium, a bill to create a permanent national fund for agricultural disasters is under discussion and, in Norway, the farmers have demanded a permanent system to provide indemnity payments in case of crop failure.

NOTES AND REFERENCES

(*1*) *The State of Food and Agriculture 1966* was recently published by the FAO. The 1966 report reverts, after last year's review of the preceding decade, to its usual pattern of reviewing the current situation in production, stocks, consumption, and trade of agricultural products, the state of farm prices and incomes, consumer prices, and changes in agricultural policies and development plans. It is illustrated with graphs and tables on a wide variety of subjects. It also contains two special chapters of longer-term interest, one on rice in the world food economy (1966 is International Rice Year), and one on the relationship between the agricultural and industrial sectors of national economies, in particular those industries using agricultural, fishery and forest products as raw materials. Some of the main findings are summarized in this article.

(*2*) United States Department of Agriculture, *World Agricultural Production and Trade, Statistical Report*, Washington, D.C., September 1966.

(*3*) Frank Shefrin, World Agricultural Production and Trade, *Conference on International Trade and Agriculture*, Economic Council of Canada and Agricultural Economics Research Council of Canada, Ottawa, 1966, pp. 33-75.

(*4*) United States Government Printing Office, *Food for Peace 1965, Annual Report of Public Law 480*, Washington, D.C., June 30, 1966.

(*5*) The National Institute of Economic and Social Research, *National Institute Economic Review*, London, England, August 1966.

(*6*) 1 Rouble = $1.20.

93218—3

A NOTE ON LONG-TERM AGRICULTURAL DEMAND PROJECTIONS (1)

Frank Shefrin and Zenon Yankowsky

Projections of trends in Canadian population, G.N.P., disposable income and total food consumption show that between 1964 and 1980 the increases could be of the following order: population, 38.5 per cent; G.N.P., 110 per cent; disposable income, 106.5 per cent; and food consumption, 44 per cent.

The weight of the food basket consumed per capita will show little change but the composition of the basket will vary considerably, with proportionately more fruits, vegetables and meats and less cereals, potatoes, eggs and dairy products.

The projections are at best indicators and are only as good as the basic data available and the assumptions made. The population and income projections are taken from the reports of the Royal Commission on Canada's Economic Prospects. The food consumption data which includes food of domestic and imported origin up to 1964 are those published by the Dominion Bureau of Statistics. In making the projections it is assumed that there would be no sharp changes in food habits and preferences, no major political upheavals such as war, and no significant changes in agricultural policies. It is also assumed that food price relationships will show no marked changes. It is obvious that such assumptions limit both the accuracy and value of projections, but even with these shortcomings they should provide an indicator of trends—a benchmark for making production plans by farmers, and for formulating policies by governments.

Population

The estimates show that Canada's population will increase in numbers although the rate of growth may be somewhat lower than in the past. The middle or "best guess" estimates of population projections made by the Royal Commission on Canada's Economic Prospects (*2*) were used. The Commission projected that Canada's population in 1980 most likely will reach the level of 26.6 million. In comparison with 1964, population in 1980 will be 38.5 per cent higher. The projected annual rate of growth of population between 1964 and 1980 will approximate 2.1 per cent, 0.3 per cent lower than the growth in the 17 years before 1964.

Income

The Royal Commission on Canada's Economic Prospects' (*3*) projections on G.N.P. and disposable incomes were used. The Commission's projections up to 1970 are close to those made by the Economic Council for 1970 and only slightly lower than the actual trend for the 1960-65 period. According to these projections the G.N.P. will reach the level of 66.5 billion (1949) dollars by 1980. On the basis of these estimates the economy will have to grow at an average annual compound rate of 4.6 per cent to reach the projected level. The projected G.N.P. in 1980 will be nearly 110 per cent higher than in 1964. It is estimated that by 1980 the disposable income may be 106.5 per cent above the 1964 level.

It is projected that in 1980 the expenditure on food (*4*) will have more than doubled over 1959-61 but as a per cent of disposable income it will show a slightly lower percentage than in 1964. In 1949 it represented about 24 per cent and in 1964 it was 22 per cent. It should be noted that during this period consumers were buying each year more services. Between 1949 and 1964 the farmers' share of the consumers' dollar declined from 58 per cent to 41 per cent.

Food Outlook

The projections of per capita food consumption (*5*) indicate a moderate increase over the next 15 years (Table 1). In 1980, per capita consumption, by weight, of all food products will only be 2.6 per cent higher than in 1959-61. A decrease in per capita consumption is projected for cereals, potatoes, pulses and nuts, pork, eggs and for some of the dairy products. On the other hand, consumption of poultry, beef, cheese, ice cream, milk by-products, processed fruits and vegetables, and oils of vegetable origin will increase quite significantly.

Although the per capita consumption projections for some food products show a decline, the projection for total consumption (Table 2) shows an absolute increase for all commodities. Total consumption of food products will be, it is estimated, 53 per cent higher in 1980 than in 1959-61, and 44 per cent higher than in 1964. The main contributing factor to that increase will be the growth of population (*6*). By 1980, total consumption for some products could double. Of major importance to Canadian agriculture will be the projected growth in consumption of beef and poultry.

Commodities

The decline in per capita consumption of cereals in general and of wheat flour in particular is of a long-run duration reflecting the pattern of a rise in income being accompanied by a drop in consumption of cereals. By 1980, per capita consumption will be 126 pounds or about 18 per cent below 1959-61 and 14 per cent below that of 1964. The consumption of

cereal products other than wheat flour declined at a slightly lower rate than wheat flour and this trend is expected to continue. In 1980 total consumption of all cereal products due to increased population will be an estimated 22 per cent higher than in 1959-61 and 20 per cent higher than in 1964.

Fresh potato consumption declined during the postwar period. However, the consumption of processed potatoes (frozen, canned, chips and dehydrated) has been increasing during the past ten years. Consumption of potatoes for all uses was about two per cent lower in 1964 than in 1949. This trend is expected to continue and in 1980 per capita consumption of potatoes will be about eight per cent lower than in 1959-61. Total consumption of potatoes will be about 38 per cent higher than in 1959-61.

Sugars and syrups consumption per capita showed no change throughout the period under review—at about 110 pounds with no apparent change in the trend. It is possible that it will remain at this figure for the next 15 years. Total consumption will increase at the same rate as population growth.

The downward trend in per capita consumption of pulses and nuts, which include dry beans and peas, is expected to continue. Total consumption however will increase because of population growth. Per capita consumption of all oils and fats, including butter, have not shown any major changes but shifts within the group have taken place. It is likely to remain very close to 52 pounds by 1980. Consumption of oils and fats excluding butter shows an upward trend. If in addition to butter the consumption of lard is excluded then the upward trend will be further accentuated. This would indicate that the consumption of oils of vegetable origin is increasing and the consumption of fats of animal origin is declining and this trend could continue.

Although per capita consumption of fruits and vegetables is increasing, the upward trend for vegetables is more pronounced. Consumption of processed (canned and frozen) fruits and vegetables is increasing faster than of fresh. Generally, consumption of fresh fruits and vegetables shows larger annual and seasonal variations than do processed products. Per capita consumption of fresh peaches and apples is upward trended, bananas have maintained the same level over a number of years, and fresh citrus show a decline. Between 1949 and 1964, total consumption of all fruits and vegetables has increased substantially and the projections indicate further large increases by 1980, with total percentage gains exceeding per capita gains.

Consumption of all dairy products in terms of milk equivalent has been declining for some time and a further per capita decline of about 12 per cent is projected for 1980, as compared with 1959-61 and 1964. Of particular significance is the decline in per capita consumption of fluid milk and cream and of creamery butter although the latter showed some increase in 1962 and 1963. Also per capita consumption of manufactured whole milk products has been declining for more than a decade. Consumption of other dairy products, that is, ice cream, cheese and manufactured milk by-products, increased considerably and the projections for 1980 indicate further increases for these three groups of dairy products. Total demand in 1980 will, it is estimated, exceed the 1959-61 total by 28 per cent.

Per capita consumption of all meats has shown a continuous rise and it is anticipated that this trend will continue. Of the red meats, consumers have shown their strong preferences for beef and the increase in beef consumption continues notwithstanding the rising prices of beef during the past 11 years. It is projected that by 1980 per capita consumption of beef will be about 43 per cent above that in 1959-61. Consumers' preference for beef over other red meats is illustrated by the following: Beef consumption as a proportion of total meats in 1949-51 was 40 per cent; in 1959-61, 48 per cent; in 1964, 53 per cent; and for 1980 it is projected at 58 per cent. While beef consumption has increased, pork consumption has shown a moderate decline and projections indicate that in 1980 pork consumption will remain rather close to the present level of about 50 pounds. Per capita consumption of other meat products, e.g., mutton and lamb and canned meat will likely be slightly higher in 1980 than in 1959-61. Total meat consumption in 1980 will be about 78 per cent higher than in 1959-61, whereas per capita consumption increase may be 19 per cent.

Between 1949 and 1964 poultry consumption more than doubled, rising from 16 pounds to 36 pounds. During the same period, turkey consumption increased from 2.5 pounds to 10 pounds. The projections for 1980 indicate a further substantial increase of about 55 per cent in per capita consumption of poultry over 1959-61 and by 33 per cent over 1964. This remarkable increase in poultry consumption reflects the rapid increase in production and the declining prices. The projections indicate that by 1980 total consumption of poultry could be about 130 per cent higher than in 1959-61.

Per capita consumption of eggs increased between 1949 and 1957, then declined but lately has levelled off. It is expected that by 1980 egg consumption would be only slightly lower from the present level. However, total egg consumption will be about 34 per cent higher than in 1959-61.

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To sum up, if the projections hold, by 1980 total consumption of meats, fruits and vegetables will be substantially higher, but only slightly higher for cereals and dairy products.

Export Outlook

What about export outlets? It is obviously more difficult to make export than domestic projections on a commodity or country basis. The projections given are mainly in global terms. UN projections indicate that world population could increase by about 50 per cent between 1960 and 1980. The projected increase in the developing countries could be about 67 per cent (including Communist China) (*7*) and for the rest of the world (including the U.S.S.R.) would be slightly over 25 per cent.

The projected world food requirements, even when based only on population growth, are substantial. The FAO has projected the demand for food separately for 99 countries covering 98 per cent of the world's population by using alternative assumptions of the growth of population and income. With population growth in developing countries slightly over 2.5 per cent a year, and under the high income assumption, demand for food in these countries would according to FAO projections increase by 45 per cent between 1965 and 1975 and by more than 110 per cent between 1965 and 1985. This would require an increase in food supplies of about 4 per cent a year. Even under the low income assumption demand for food would increase by 85 per cent between 1965 and 1985. It is apparent that large increases in gross imports of food commodities can be expected to continue.

On a commodity basis it is noted that gross imports of cereals into developing countries rose from 15 million tons in 1961 to 23 million tons in 1962. They reached a record of 32 million tons in 1966, and FAO projections indicate an increase in gross import requirements to at least 50 million tons by 1975, under the "pessimistic" assumption. The FAO also projects a rapid increase in what is termed the "potential deficit" in livestock products in developing countries but points out that lack of foreign exchange will restrain imports.

In recent years, much of the exports to developing countries has been made possible through concessional sales and food aid. It would appear that over the next decade the rate of agricultural exports to developing countries will continue to depend on the level of food aid and the extent to which the technique of sales on special terms is used.

A major export market of recent origin, which so far has been limited to wheat, is found in the centrally planned countries. It is more difficult to make projections for these countries. However, on the basis of population trends (*8*) and the recent performance of agricultural plans and programs it would appear that Canada should be able to maintain her present level of wheat exports to these countries.

Currently, international trade for livestock products and cereals is largely between high income countries themselves, and from high income to low income countries. The commercial outlets for Canadian agricultural products (excluding Communist countries) are Western Europe, the United States and Japan. Unlike the Communist countries, this group takes a variety of Canadian farm products. In terms of population this area shows a relatively smaller increase—the percentage gain projected being about 25 per cent between 1960 and 1980—than the world increase of 50 per cent. On the other hand, with its high level of income this area will continue to be an important commercial importer. At the same time, current studies indicate that with the exception of Japan, the developed countries offer a relatively declining market for temperate-zone farm products. In other words, the increase in imports will be less than the increase in domestic consumption. There are of course such exceptions as oilseeds, some feedgrains and beef.

The above paragraphs outline in global terms the FAO projected increase in demand for food up to 1980 and 1985. What does this mean to Canada? Between 1949 and 1963 Canada's agricultural exports measured in constant dollars increased annually 1.7 per cent (compound rate). If this rate of growth continues to 1980 the total value of agricultural exports could reach the level of 1.5 billion (1949) dollars, or 42 per cent above 1959-61 and 33 per cent above the 1963 volume of trade (*9*). It would appear that wheat exports which currently constitute around 60 per cent of agricultural exports, will be the major factor responsible for this increase in trade.

The projected per annum increase in agricultural exports of 1.7 per cent does not appear excessive or out of line with the UN/FAO projected trends in population and demand, in the developed economies, the centrally planned countries and the developing countries (*10*).

NOTES AND REFERENCES

(*1*) The Canadian market has been absorbing about 70 per cent of total farm production. This figure is considerably higher if we exclude wheat, which makes up to 22 per cent of total agricultural production and about 65 per cent of this wheat production is exported. Imports of foods currently supply about 22 per cent of the domestic disappearance. Of the $600 million (1960-64 average) of food imports about 60 per cent are foods not grown in Canada e.g., citrus fruits, bananas, coffee, tea, cocoa. While it is difficult to project imports of foodstuffs over the next 15 years it would appear that in 1980 imports

may make up a slightly larger part of the food basket than was the case in 1959-61. This appears to be especially the case for fruits and vegetables.

(2) Royal Commission on Canada's Economic Prospects—*Output Labour and Capital* by Wm. C. Hood and A. Scott, Ottawa, 1957. Population projections for 1980 are the middle or "best guess" estimates.

(3) Ibid. p.226—The G.N.P. projections were made on the basis of an annual average increase in productivity of 3.25 per cent and the middle estimates of population.

(4) Royal Commission on Canada's Economic Prospects—*Consumption Expenditures in Canada* by D. W. Slater.

(5) Demand was projected mainly on the basis of population and income growth. It was assumed that the growth of population would result in proportional increase in total demand. As regards income the influence of per capita income on per capita demand was expressed by the coefficients of income elasticity of demand. These coefficients of elasticity were calculated on the basis of 1949-64 time series and they represent the percentage change in demand associated with one per cent change in income. The projected increase in per capita demand for each commodity was obtained by using appropriate demand functions. In order to eliminate short term fluctuations the three year average (1959-61) was used as the base period. The projections of total food demand (Table 2) were obtained by multiplying the projected per capita demand (Table 1) by the projected population in 1980.

The demand function used for the projections was the log—inverse function and expressed as follows:

$$\log_{10} \frac{Y^1}{Y} = .4343\, e\left(1 - \frac{X}{X^1}\right)$$

Where X, Y and e refer respectively to per capita disposable income, per capita consumption and income elasticity during the base period, X^1 and Y^1 refer to income and consumption in 1980.

(6) It is estimated that between 1959-61 and 1980 total food consumption will increase by 53 per cent. Population growth will contribute 49.2 per cent and the increase in disposable income 2.6 per cent. (Tables 1 and 2).

(7) The population increase in the developing countries between 1960 and 1980, excluding Communist China, could be about the same.

(8) Population in the U.S.S.R., Eastern Europe and Communist China is projected to increase by about 500 million persons between 1965 and 1985. This group of countries will constitute over 30 per cent of the world population by 1985.

(9) This projected rate of growth is slightly higher than the Economic Council of Canada projections for agricultural exports for 1970.

(10) Allowance is made for increased production abroad.

TABLE 1.— PER CAPITA FOOD CONSUMPTION, CANADA 1949 TO 1980

		1949–51	1959–61	1964	1980 Projections	1980 as per cent of 1959–61
Disposable income (per capita)	(1949 dollars)	901	1,068	1,196	1,782	166.8
			pounds per capita per year			
Cereals	retail weight	171.7	153.1	145.7	126.0	82.3
Wheat flour	"	153.1	135.6	127.1	111.0	81.9
Potatoes	fresh equivalent	164.3	156.0	155.7	144.0	92.3
Sugars and syrups	retail weight	109.5	108.9	109.7	109.0	100.1
Sugar	"	99.5	97.8	98.3	98.0	100.2
Pulses and nuts	"	11.4	10.3	10.4	9.0	87.4
Oils and fats (excluding butter)	"	27.5	31.8	31.9	39.0	122.6
Fruits	fresh equivalent	153.0	186.6	179.0	225.0	120.6
Fresh	"	90.2	97.0	102.0	103.0	106.2
Processed	"	62.8	89.6	77.0	122.0	136.3
Vegetables	"	135.3	159.3	160.1	209.0	131.2
Fresh	"	71.8	83.0	80.5	102.0	122.9
Processed	"	63.5	76.3	79.6	107.0	140.2
Dairy Products	retail weight	451.6	411.6	393.5	353.0	85.8
Fluid milk and cream	"	389.1	344.7	321.6	266.0	77.2
Butter	"	21.9	17.2	19.0	13.0	75.6
Cheese	"	6.1	8.4	10.2	14.0	166.7
Concen. whole milk prod.	"	18.9	19.7	18.3	17.0	86.3
Concen. milk by-prod.	"	5.3	9.4	11.5	25.0	266.0
Ice cream	"	10.3	12.2	12.9	18.0	147.5
Dairy products	milk equivalent	1,028.0	895.8	913.8	791.0	88.3
Meat	carcass weight	129.8	141.3	149.1	168.7	119.4
Beef	"	52.3	68.4	78.5	98.0	143.3
Veal	"	8.9	6.9	6.9	7.0	101.4
Pork	"	56.2	53.1	52.0	49.0	92.3
Lamb and mutton	"	2.3	3.1	3.4	3.7	119.4
Other	"	10.1	9.8	8.3	11.0	112.2
Poultry	eviscerated weight	16.6	29.7	34.5	46.0	154.9
Fowl and chicken	"	13.7	21.9	25.3	32.0	146.1
Turkey	"	2.5	7.2	9.2	13.0	180.6
Eggs	retail weight	29.5	34.4	32.2	31.0	90.1
Total food		1,400.2	1,423.0	1,401.8	1,459.7	102.6

Source: Dominion Bureau of Statistics, for 1949-1964. Projections for 1980, estimated by Economics Branch, Canada Department of Agriculture.

TABLE 2.— TOTAL FOOD CONSUMPTION, CANADA 1949 TO 1980

		1949–51	1959–61	1980 Projections	1980 as per cent of 1959–61
			million pounds		
Population	'000	13,723	17,864	26,650	149.2
Cereals	retail weight	2,356	2,735	3,358	122.8
Wheat flour	"	2,101	2,422	2,958	122.1
Potatoes	fresh equivalent	2,255	2,787	3,838	137.7
Sugars & Syrups	retail weight	1,503	1,945	2,905	149.3
Sugar	"	1,365	1,747	2,611	149.5
Pulses & nuts	"	156	184	240	130.6
Oils & fats (excluding butter)	"	377	568	1,039	182.9
Fruits	fresh equivalent	2,100	3,333	5,996	179.9
Fresh	"	1,239	1,733	2,745	158.4
Processed	"	861	1,600	3,251	203.4
Vegetables	"	1,857	2,846	5,570	195.7
Fresh	"	985	1,482	2,719	183.4
Processed	"	872	1,364	2,851	209.2
Dairy Products	retail weight	6,197	7,353	9,407	127.9
Fluid milk & cream	"	5,340	6,159	7,089	115.1
Butter	"	300	307	346	112.7
Cheese	"	84	150	374	248.7
Concen. whole milk prod	"	259	352	453	129.1
Concen. milk by-prod	"	73	168	666	398.8
Ice cream	"	141	217	480	221.2
Dairy products	milk equivalent	14,107	16,002	21,080	131.7
Meat	carcass weight	1,781	2,524	4,496	178.1
Beef	"	718	1,222	2,612	213.8
Veal	"	122	123	187	151.2
Pork	"	771	949	1,305	137.7
Lamb & mutton	"	31	55	98	178.2
Other	"	139	175	293	167.4
Poultry	eviscerated weight	228	530	1,225	231.1
Fowl & chicken	"	188	391	852	217.9
Turkey	"	34	128	346	270.3
Eggs	retail weight	405	615	826	134.5
Total food		19,215	25,420	38,900	153.0

TRENDS IN FARM INCOME

I. F. Furniss

In July, 1966, the Dominion Bureau of Statistics released revised estimates of total farm cash receipts (*1*) for the intercensal period 1951–61, together with revised estimates for the years 1962–65. This was followed by a release in September of revised estimates of farm expenses and net income (*2*). In the release on *Farm Net Income*, the DBS noted that:

> Estimates of farm net income from farming operations have been revised and are now based upon the most up-to-date information from private and government sources including the Censuses of Agriculture and the 1958 Farm Expenditure and Income Survey. They also reflect changes in methods of calculation which have been developed in recent years.

As a result of the revisions to the series of farm operating expenses and depreciation allowances, the DBS noted that with the development of a more expanded coverage of expense items, it was almost inevitable that the estimates for total farm operating expenses would rise, and in some provinces this increase was fairly substantial. These revisions accounted in part for reductions in the estimates for net farm income. However, the report goes on to explain the purpose of the estimates, which is repeated here:

> Although levels of net income have been changed, mostly downward, the general trends established in the earlier [published] series have been maintained in the revised estimates. In fact, the chief value of this income series is as an indicator of change rather than a measure of absolute magnitudes. Many problems associated with the estimation of income and expenditure aggregates are more serious when results are used as a measure of absolute level rather than as an indicator of relative changes over time. Available related data used in preparing income estimates from year to year may not be specifically designed for this purpose, or some component may be inadequately covered because of lack of information, but these shortcomings tend to be consistent from year to year and the resultant measures of change over time are quite significant.

These brief remarks introduce the purpose of this paper; to review the trends in farm income, based on the revised DBS estimates, and to relate these trends to other relevant trends affecting the farm economy, especially those of the numbers of persons in the farm sector and of incomes in a representative non-farm sector. These trends will be examined, in so far as data permit, on a regional basis.

TOTAL FARM INCOME

The total realized net farm income from farming operations (*3*) of the Canadian agricultural sector has been relatively constant over the 20-year period, 1946–65. This is shown graphically in Figure 1, where

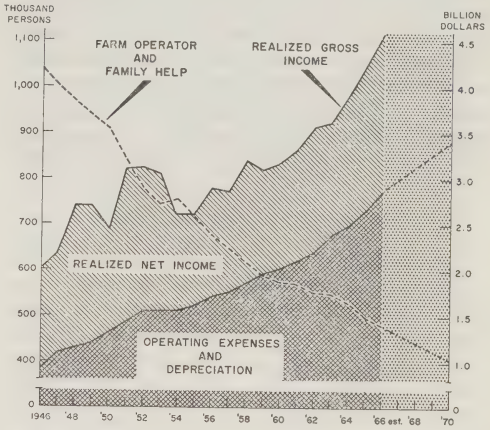


FIGURE 1—TRENDS IN THE SELF-EMPLOYED FARM LABOR FORCE (farm operators and unpaid family help), TOTAL FARM INCOME AND TOTAL FARM EXPENDITURES, CANADA, 1946 TO 1966 (with projections to 1970)

the reader will see that, subject to the annual fluctuations which occur in realized gross income, the spread, which represents net income, between this and farm operating expenses has been relatively uniform. While realized gross farm income, which is the total of farm cash receipts, income in kind and government supplementary payments, has grown at a rate of 2.7 per cent a year, farm operating expenses and depreciation allowances, being less in total amount, have shown an upward trend of 5.2 per cent a year (*4*). Consequently, there has been no discernible trend either way in total realized net farm income over the 20-year period for Canada as a whole.

If the trend established for farm operating expenses and depreciation allowances continues at the 1946–65 rate of +5.2 per cent a year, then the total outlay will reach $3.4 billion by 1970. This figure is obtained by applying the compound growth rate to the 1965 estimate of $2.6 billion. Since there is a fairly consistent relationship between farm operating expenses and depreciation allowances and realized gross farm income, this can be used to approximate the level of gross farm income. For the 1961–65 period, realized gross farm income was 157 per cent of farm expenses.

Applying this relationship to our projection of farm expenses for 1970 indicates that by that year, or sooner, total realized net farm income from farming will be over $1.9 billion.

Although there has been no trend in realized net farm income for Canadian farmers as a whole, there have been regional differences. These are shown in Table 1. Total net farm income in the Maritimes and Quebec has declined in relation to the Canada total. Ontario farm income has represented about one-quarter of the total over the whole of the period. In the Prairies and British Columbia, the total net income of farmers has increased generally in relative importance from about 52 per cent of the total for the Prairies in 1946–50 to 56 per cent in 1961–65. In British Columbia, the increase has been from about 4 per cent of the total to almost 5 per cent.

AVERAGE FARM INCOME

The trends in total realized net farm income need to be related to the trends in the numbers of the persons who produce this income so that an assessment can be made of individual earnings in agriculture. At the beginning of this paper, we indicated that the estimate of total realized net farm income cannot be considered as being an absolute measure but more as an indicator of change. This means that calculations of average farm incomes may or may not represent the actual level of average incomes in farming. The relationship of total farm net income to the relevant part of the farm labor force is shown graphically in Figure 1 for Canada. This chart shows that the number of farm operators and unpaid family workers (*5*), described hereafter as "farm family workers", has been declining. The rate of decline has been 4.1 per cent a year for the period 1946–65 or 3.1 per cent since 1956. Since there has been no significant trend in aggregate realized net farm income, the increase in average income per farm family worker has been 4.2 per cent a year since 1946.

In Table 2 the trends in average farm incomes are summarized by region. These averages refer to the total farm labor force (*6*) and they have been expressed in terms of an index, with the 1949 average as the base year. Previously, we noted that there had been decreases in the total realized net farm incomes in the Maritimes and Quebec. However, when the decreases in employment in the farm sector during the same period are taken into account (*7*), average net incomes of the farm labor force have risen in all regions.

Although the rate of decrease in the numbers of farm workers in the Maritimes was 4.6 per cent a year, this was not enough to bring the rate of increase in average farm income up to the national average. The rate of increase in Quebec average net farm income was also below the Canadian average. While total farm incomes in the Prairies and British Columbia showed the greatest increases, the rates of decline in farm employment have been less than in the other regions. Consequently, the rate of increase in average farm net income in the Prairies has been 3.4 per cent while that for British Columbia was 4.0 per cent. Ontario had the highest rate of increase in average farm income, almost 5 per cent, while the decrease in farm employment was at a lesser rate than for Quebec and the Maritimes.

FARM AND NON-FARM INCOMES

In the post-war period under review, the wages and salaries of production workers in manufacturing have shown a relatively steady growth rate, rising by 5.2 per cent a year, or about one per cent a year more than average net farm income. In other words, average net farm income has been falling behind the growth in wages of manufacturing workers by one per cent a year during the period 1946 to 1965. In 1946–50, the average realized net farm income of farm family workers was 71 per cent of the average wages and salaries of manufacturing workers. This relationship worsened during the 1950's, reaching a low of 46 per cent in 1955. By 1961–65, the average realized net farm income per family worker had recovered to 62 per cent of average manufacturing wages. Realized net farm income includes, however, only the income derived from farming operations. The farm labor force does earn additional income from off-farm work, but no current estimate is available of the amount or the trend. In agriculture, off-farm earnings are inversely related usually to the size of the individual's farming operations (*9*). For those persons who are in the "part-time farming" category, off-farm earnings can exceed farm earnings. However, these persons form a part of the total agricultural labor force and account in part for the smaller average earnings of farm workers from farming as compared with the wages and salaries of manufacturing workers.

The wages of manufacturing workers increased more rapidly in the earlier part of the period reviewed. Since 1960, average net farm incomes have been advancing more rapidly, about 8.5 per cent a year, as compared with 3.5 per cent for manufacturing workers' wages. However, over the longer term, this analysis supports the contention that average farm incomes have lagged behind those of other sectors of the economy, specifically the wages and salaries of manufacturing workers.

SUMMARY AND CONCLUSIONS

This review of the trends in farm income has not attempted to establish the absolute levels of income, as compared with those of any other sector of the economy. Our purpose instead, has been to examine the trends occurring in incomes during the 20-year period, 1946 to 1965.

Although the total realized net farm income of Canadian farmers has been relatively stable during the period reviewed, an offsetting factor has been the concurrent decline in the total numbers of persons dependent on farming, in whole or in part, for their incomes. Consequently average net farm incomes have been rising by 4.2 per cent a year. There are regional differences in average farm income trends and we find that they have shown the highest annual growth rate in Ontario, almost 5 per cent, compared with 2.8 per cent in the Maritimes. The rate of growth in the wages of production workers in manufacturing has shown an increase, on a national basis, of 5.2 per cent. This was about one per cent a year more than the growth rate of average farm income but closely comparable with the average farm income growth rate in Ontario. In the 1960's, however, the rate of growth in average farm income has shown an improvement, a result of both rising total net income of the farm sector and a continuing movement by farm workers, principally farm operators and family help, out of agriculture. However, during the 20-year period reviewed, the growth in farm income has lagged behind that of manufacturing wages by one per cent a year.

NOTES AND REFERENCES

(*1*) Dominion Bureau of Statistics, *Farm Cash Receipts*, July 1966, Cat. No. 21–001.

(*2*) Dominion Bureau of Statistics, *Farm Net Income*, Sept. 1966, Cat. No. 21–202.

(*3*) "Realized net farm income" is the net return to the farm operator and his family help for their labor, management and owned capital investment. It therefore differs conceptually from the average wages and salaries of workers in the manufacturing industries, which are labor income only, with which average net farm incomes are often compared.

(*4*) All growth rates, or rates of decline, given in this paper are compound rates and were calculated by fitting a straight-line trend to the data by simple least squares regression.

(*5*) This is a total of the estimated numbers (annual averages) of "own account workers", "employers" and "unpaid family workers" in agriculture, as published by the Dominion Bureau of Statistics in *The Labour Force*, Cat. No. 71–001.

(*6*) Estimates are not available on a regional basis from the DBS labor force survey of the numbers of agricultural workers by classification. Therefore, it was necessary to add the wages and salaries of paid farm workers to the total realized net farm income of farm family workers to obtain an income estimate which could be related to the total number of farm workers (paid workers, own account workers, employers and unpaid family workers).

(*7*) The average annual decreases in the total farm labor force by region for the period 1946–65 have been as follows:

	Numbers	Rate of Decline
	(000)	(per cent)
Maritimes	3.0	4.6
Quebec	8.6	4.9
Ontario	8.5	4.0
Prairies	9.9	2.9
British Columbia	0.5	2.1
Canada	30.5	3.7

(*8*) Although the wages of manufacturing workers represent labor income entirely while farm incomes represent a combination of labor and capital income, the series showing the wages of manufacturing workers probably provides the best basis for comparing relative trends in incomes since this sector includes a wide range of types of occupations and the manufacturing sector as a whole contributes over one-quarter of total Gross Domestic Product.

(*9*) J. M. Fitzpatrick and C. V. Parker, Distribution of Income in Canadian Agriculture, *Canadian Journal of Agricultural Economics*, Vol. XIII, No. 2, Appendix Table 2, p. 62.

TABLE 1—DISTRIBUTION OF TOTAL REALIZED NET FARM INCOME, CANADA BY REGION, QUINQUENNIA, 1946-65

	Maritimes		Quebec		Ontario		Prairies		British Columbia		Canada
Quinquennia or Year	'000$	Per cent of Canada	'000$	Per cent of Canada	'000$	Per cent of Canada	'000$	Per cent of Canada	'000$	Per cent of Canada	(excl. Nfld.) '000$
1946–50	56,682	4.4	194,954	15.1	316,118	24.5	671,660	52.1	50,171	3.9	1,289,586
1951–55	62,719	4.7	205,994	15.3	332,022	24.7	682,344	50.8	60,299	4.5	1,343,378
1956–60	52,230	4.5	167,669	14.4	283,424	24.3	603,013	51.7	59,203	5.1	1,165,539
1961	37,755	3.1	150,193	12.4	287,185	23.8	670,567	55.6	60,728	5.1	1,206,428
1962	39,205	3.0	156,393	12.0	313,461	24.0	726,843	55.8	68,236	5.2	1,304,138
1963	36,882	3.0	147,112	12.2	342,837	28.3	618,259	51.0	66,658	5.5	1,211,748
1964	44,640	3.2	140,986	10.0	325,658	23.1	830,134	59.0	66,367	4.7	1,407,785
1965	65,751	4.1	170,464	10.7	371,347	23.3	919,318	57.6	68,914	4.3	1,595,794
1961–65	44,846	3.3	153,030	11.4	328,098	24.4	753,024	56.0	66,181	4.9	1,345,179

Source: Dominion Bureau of Statistics, Farm Net Income, Sept. 1966, Cat. No. 21-202.

TABLE 2—TRENDS IN AVERAGE NET INCOMES IN FARMING[a], CANADA, BY REGION, QUINQUENNIA, 1946-65 (1949 = 100)

Quinquennia or Year	Maritimes	Quebec	Ontario	Prairies	British Columbia	Canada (excl. Nfld.)
1946–50	99	91	85	79	110	85
1951–55	166	120	138	98	186	112
1956–60	144	135	137	105	182	123
1961	101	142	167	117	178	138
1962	131	153	182	126	195	152
1963	160	155	180	108	285	146
1964	173	162	186	145	231	170
1965	284	190	222	176	244	203
1961–65	170	160	188	134	226	162
			per cent			
Annual growth rates, 1946–65	+2.8	+3.7	+4.9	+3.4	+4.0	+4.3

Sources: Computed from data published in:
(1) Dominion Bureau of Statistics, Farm Net Income, Sept. 1966, Cat. No. 21-202;
(2) Dominion Bureau of Statistics, The Labour Force, various issues, Cat. No. 71-001.

[a]A total of realized net farm income from farming operations plus the wages paid to hired farm labor divided by the total farm labor force. Regional estimates of the numbers of workers in the farm labor force by class of worker are not available.

TRENDS IN PRICES PAID AND RECEIVED BY FARMERS

J. T. Hill (1)

The purpose of this paper is to attempt to shed some light on the problem of the cost-price squeeze in farming by examining the Dominion Bureau of Statistics indexes of commodity prices and of the prices of goods and services used by farmers for the period 1946 to 1965. No attempt is made to examine factors other than these, which are of importance to this problem, such as economies of size, technological change, and changes in farm organization—all important factors in determining individual farm costs and incomes.

MEASURES OF PRODUCT PRICES AND INPUT PRICES

In order to explore the subject of this paper, the "cost-price squeeze", it is necessary to select appropriate measures for the prices of the various agricultural commodities and the prices of the goods and services used by farmers to produce these commodities. Prices for farm commodities and for the inputs used by farmers in producing them vary considerably. Not only do we have variations from commodity to commodity, which are generally self-evident, but there are also quality, location and seasonal differences.

The first step is to decide on the method of comparing prices. The calendar year appears to provide the best measure for comparing secular price change. The period for examination taken was from the end of World War II to 1965, which admittedly includes some disrupting periods such as the Korean War but, nevertheless, provides a continuous period of twenty years for which data are available to compare secular changes.

The next step is to select the appropriate annual price. Seasonal variations can be ironed out with the selection of an average price. This rules out the selection of spot prices. Since we are basically interested in secular trends in prices, it is essential that the price be a representative one for the product selected and for the total market in which the product is sold. Individual prices for specific commodities at various market centres for varying grades have serious limitations for making national comparisons. Prices for inputs suffer from similar drawbacks. The data selected must be comprehensive enough so as to be representative of what farmers in general tend to experience. Finally, they must cover an extensive period so that evidence of the rates of change in prices can be discerned over time.

The Dominion Bureau of Statistics prepares data in the form of indexes which fulfil some of the requirements for a convenient measure of the trends in farm prices (*2*). They are comprehensive in that they represent prices paid for commodities and services used by farmers and of prices received by farmers for agricultural products sold. These price indexes also cover an extensive period of time, from 1935 to the present. Both indexes are on the same base.

The monthly index of farm prices of agricultural products provides a national and provincial price index for about 50 farm products, including grains, livestock and livestock products, dairy products, eggs and poultry, vegetables, tobacco, fruits and potatoes (*3*). Each index is based on the prices received by a sampling of farmers who report monthly to the Dominion Bureau of Statistics. Subsidies, bonuses, and premiums which can be attributed to specific commodities are included in the reported price. The annual amounts sold in the base period provide the weights for each commodity in compiling the index in all subsequent years. These commodities contributed about 90 per cent of the total cash income received by farmers during the base period (*4*).

The index of commodities and services used by farmers provides price data covering three major areas of farm expense: equipment and materials, taxes and interest rates, and farm wage rates. The index of equipment and materials is based on retail prices in January, April and August of each year reported by manufacturers and selected retail outlets supplying rural communities. The indexes of farm wage rates, taxes and interest rates are based on information from a sampling of farmers (*5*). The quantity weights in the index are based primarily upon a 1938 survey of farms, adjusted in 1948 to take account of changing conditions.

OVERALL PRICE TRENDS

An examination of the two all-Canada indexes, the index of farm prices and the price index of commodities and services used by farmers from 1946 to 1965, shows three periods in which price movements reveal noticeably different characteristics (Figure 1).

In the first period, 1946 to 1951, farm product prices and prices paid rose sharply, with the prices paid rising much more rapidly than farm product prices and showing a greater percentage increase in each year of this period (*6*). This rapid rise in both price indexes reflected the general post-war inflationary pressures which prevailed in Canada.

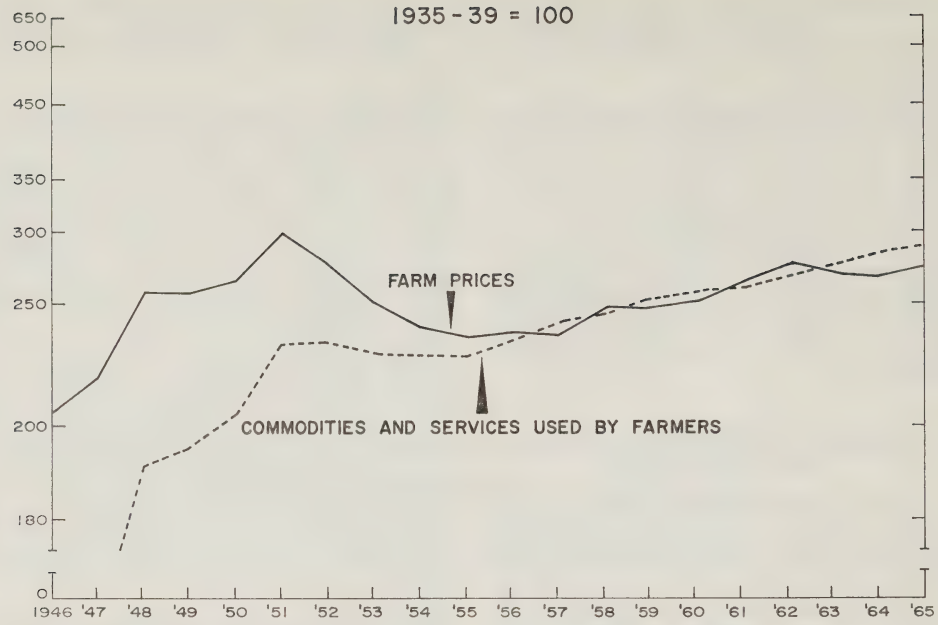


Figure 1—INDEX NUMBERS OF FARM PRODUCT PRICES AND PRICES OF COMMODITIES AND SERVICES USED BY FARMERS, ALL-CANADA, 1946-65. (Ratio scale on vertical axis.)

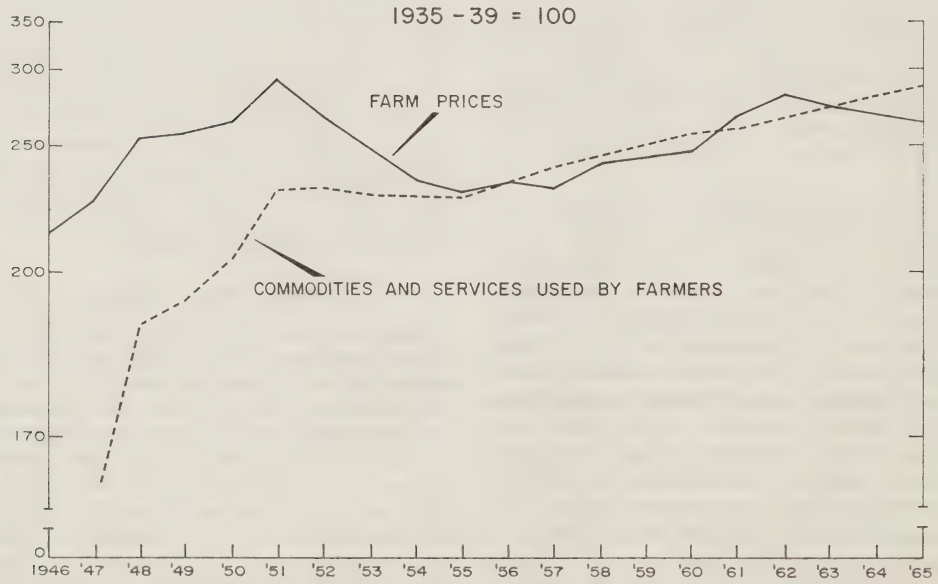


Figure 2—INDEX NUMBERS OF FARM PRODUCT PRICES AND PRICES OF COMMODITIES AND SERVICES USED BY FARMERS, WESTERN CANADA, 1946-65. (Ratio scale on vertical axis.)

In the second period, 1952 to 1955, farm product prices continuously declined while prices of purchased goods and services remained at about the same level, edging only slightly downward.

The third period, 1956 to 1962, was characterized by a very similar pattern of upward price movements of the two series with the single exception of one year, 1957. From this year up to 1962, both sets of prices moved upward at about the same rate. For the 1956–62 period, the rate of increase was about the same for both prices paid and prices received.

The last and most recent period, 1963–65, appears to reveal a different pattern of price movements. In 1963 and 1964, farm product prices moved downward while prices of goods purchased moved upward. In 1965, however, both price series moved upward again at the same rates.

In addition to comparing the trends in the price indexes for Canada as a whole, the trends were also compared for Western and Eastern Canada. The trends in Western Canada were very similar to the national situation (Figure 2), largely because of the heavy weight which western agriculture has in the Canadian agricultural price indexes.

Price movements in the East do not fit the national pattern. This is understandable considering that eastern agriculture is based on the production of a wider range of commodities with prices varying according to the different market conditions inherent in each of the products. However, the price of dairy products exerts a strong influence on the Eastern Canada index (Figure 3). The relative movements of prices paid and received by farmers during the post-war years, 1946 to 1965, which have been represented by composite indexes, indicate a more rapid overall rate of increase in prices paid than in farm product prices. Farm product prices in certain years showed considerable downward movement, while prices of inputs, when declines were evident, moved downward at very moderate rates. Thus, in terms of the relative trends in the two price series, there is evidence of an overall cost-price squeeze in Eastern Canada.

COMMODITY PRICE AND RELATED INPUT PRICE TRENDS

In the previous part of this paper, the trends in the composite indexes of farm product prices and of the prices of commodities and services used by farmers were reviewed. In this section, the trends in the price indexes of specific commodity groupings are compared with the trends in the prices of particular farm inputs which rank most highly in the production costs for each commodity. These trends are examined in terms of all-Canada indexes. The method of comparing changes in prices of each agricultural commodity and of the prices of the relevant inputs is similar to that used in Figures 1 to 3. Figure 4 shows the trends in all-Canada prices of livestock and livestock products; dairy products; grains, and eggs and poultry. Figure 5 shows the trends in the all-Canada prices to farmers of hired wage rates; building materials; machinery, and feeds.

Livestock and Livestock Products

The major cost item in the production of livestock is feed. Although prices of farm machinery, as well as taxes and interest rates, have risen at a more rapid rate than livestock prices, which actually declined from a 1951 high to a low in 1955–56 but have risen slowly since this time, feed prices have not shown any substantial gains but have moved instead in a pattern very similar to livestock prices. Building material prices rose rapidly up to 1951, but since that time, up to and including 1965, they have risen only moderately.

Grains

Important cost items in grain production are machinery, including fuel and fertilizers. From 1946 to 1957, grain prices moved downward while prices of these cost items rose steadily. It appears that, during this period of time, grain producers were subject to a cost-price squeeze, particularly in the last five years of the period. However, from 1958 to 1962, the grain price index moved upward at a greater rate than prices of the cost items, which suggests some lessening of the cost-price squeeze during this period.

Dairy Products

The prices for dairy products remained steady between 1946 and 1957 when prices began to climb slowly upward. The relative stability in dairy prices is partly a result of federal government influence over the pricing of dairy products through its dairy support program. As a result of increased support in 1965 through supplementary payments for manufacturing milk and increased butter prices, the price index displayed a relatively sharp increase compared with previous years. The prices of farm inputs associated with dairying, such as feed, machinery and wage rates, advanced at a greater rate than dairy product prices since 1958. This situation suggests that dairy farmers have been subjected to a cost-price squeeze. Lower feed prices in 1964 and 1965 and government assistance have been important factors in alleviating the pressure from higher prices of goods and services bought by dairy farmers.

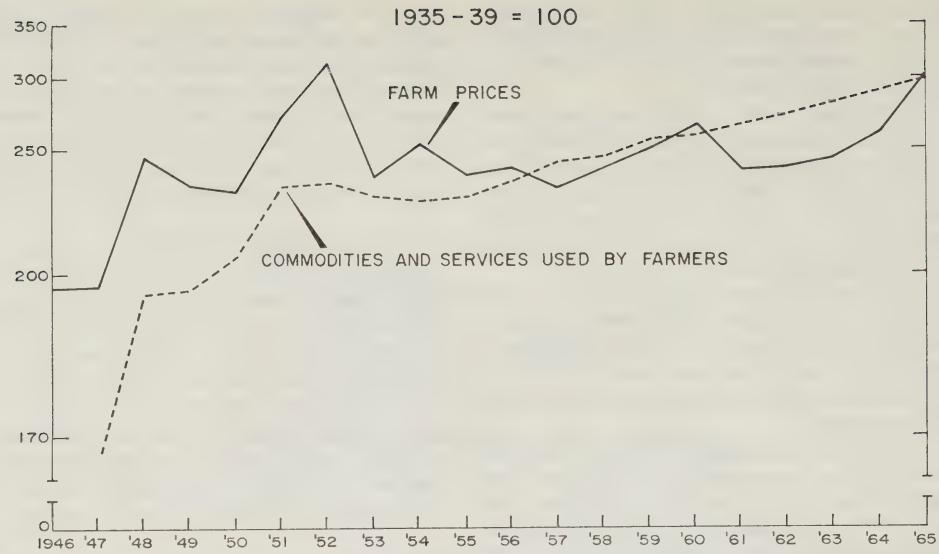


Figure 3—INDEX NUMBERS OF FARM PRODUCT PRICES AND PRICES OF COMMODITIES AND SERVICES USED BY FARMERS, EASTERN CANADA, 1946-65. (Ratio scale on vertical axis.)

Eggs and Poultry

The farm price index for poultry products reveals a marked downward trend from 1951. This downward movement is in contrast to the trend in prices of the major cost item—feed, which has risen since 1958, and of other cost items such as hardware, taxes and interest rates which show fairly continuous advances over the entire period.

However, although prices to producers have declined noticeably since 1951, improved technology and the expansion in size of operation have resulted in a marked decline in average costs per unit of output. Improved technology has also been an important factor in reducing costs as the efficiency of feed conversion to poultry meat has increased substantially in the past ten years. Improved technology has been

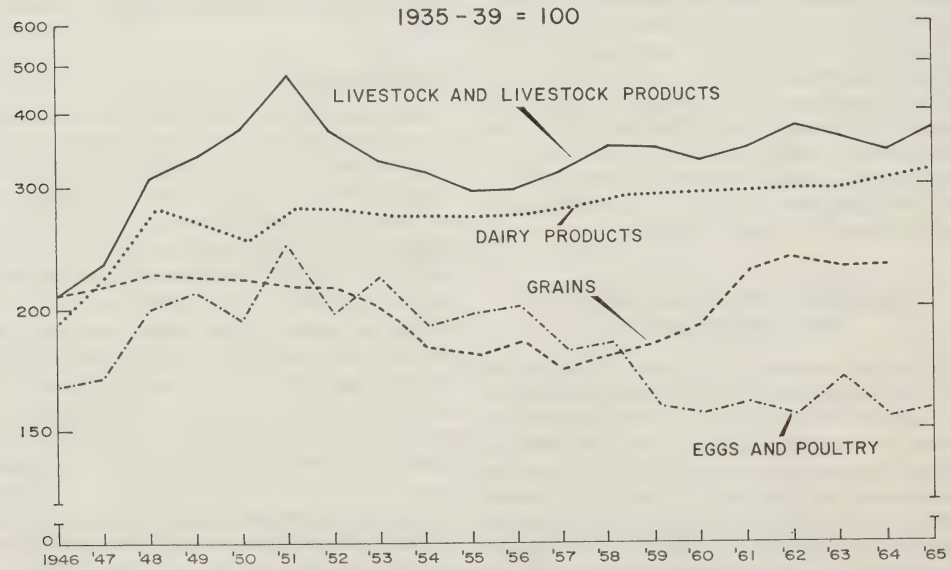


Figure 4—INDEX NUMBERS OF FARM PRICES FOR THE MAJOR AGRICULTURAL COMMODITIES, CANADA, 1946-65. (Ratio scale on vertical axis.)

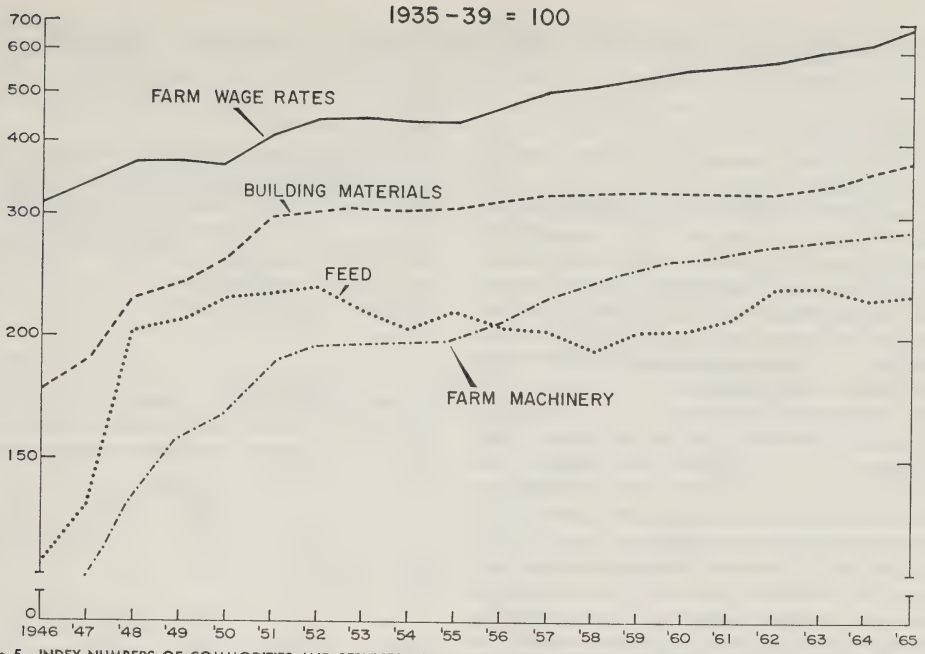


Figure 5—INDEX NUMBERS OF COMMODITIES AND SERVICES USED BY FARMERS FOR SELECTED ITEMS, CANADA, 1946-65. (Ratio scale on vertical axis.)

adopted generally, however, throughout the whole agricultural industry during the period under review. The changes in the poultry industry provide a good illustration of why it is not possible to assess the extent of the cost-price squeeze only on the basis of the trends in prices paid and prices received by farmers. Prices paid and prices received are useful comparisons but they do not take into account changes in farm income and costs resulting from such factors as changes (improvements) in technology and changes in farm organization (resource combination).

CONCLUSIONS

This attempt to determine the existence of a "cost-price squeeze" in various agricultural enterprises by comparing relative changes in the indexes of farm product prices and of prices paid over nearly 20 years illustrates the difficulties of reaching definite conclusions on the basis of the method and the data used. The above analysis indicated that prices of inputs in farming went up faster than prices of farm products during the period 1946 to 1965. The relationships of the indexes showed considerable variation, however, both for selected time periods and commodities. A full assessment of the extent of the cost-price squeeze in agriculture requires an analysis of farm incomes and farm costs, which has not been attempted in this article.

NOTES AND REFERENCES

(*1*) Formerly Economics Branch, Canada Department of Agriculture, now Food Products Branch, Department of Industry, Ottawa.

(*2*) D.B.S., *Index Numbers of Farm Prices of Agricultural Products*, Cat. No. 62–003 and D.B.S., *Price Index of Commodities and Services Used by Farmers*, Cat. No. 62–004.

(*3*) This index appears monthly in the form of a composite farm price index for agricultural products at the national and provincial levels. The individual commodity price indexes are not published.

(*4*) See, for example, D.B.S., *Quarterly Bulletin of Agricultural Statistics*, January–March, 1966, p. 9, Cat. No. 21–003.

(*5*) For further details refer to D.B.S., *Prices and Price Indexes, 1942–1952*, Cat. No. 62–501.

(*6*) In this paper, all charts have been plotted using semi-logarithmic paper, which provides a graphic representation of rates of change over time. On a logarithmic scale, equal distances represent equal *ratios* or *proportions*. This is the opposite to an arithmetic scale, as commonly used in graphics, where equal distances represent equal *amounts*. A logarithmic scale cannot show zero and will not provide a visual impression of the absolute magnitudes of the values plotted. It is, however, a very useful technique for plotting index numbers which are designed to measure rates of change. Although an index does give an absolute measure of change in terms of index points, the relative change is difficult to compare visually when the levels of the various indexes differ considerably, as for example, 1965 farm wage rates for Canada, at an index of 699.3 (1935–39 = 100), compared with the gasoline price index of 159.7 (same base).

BEEF FARMING IN THE EAST KOOTENAY AREA OF BRITISH COLUMBIA, 1964

N. D. Turnbull

Area of Study

The study area, located in the Rocky Mountain Trench of British Columbia, extends from the Canada –U.S.A. border to Cranbrook. It is bounded by the Rocky Mountains on the east and on the west by the Purcell Range. That part of the area through which the Kootenay River flows is approximately 17 miles wide. The Kootenay River Valley is higher in elevation than the valleys to the west and therefore not as warm and dry. It is a semi-arid region with an annual precipitation of about 14 inches.

The Trench runs more or less in a north-south direction and provides a path for the masses of cold continental air from the north, particularly in the winter, and for the warm air from the southern plateaux of the United States in the summer. Consequently, there is a wide seasonal temperature range. Cold air from the north in the late spring, summer and early fall often results in frosts due to a low humidity and a rapid night radiation. Frosts have been reported at Cranbrook in all months of the year, although the growing season averages about 180 days (days with mean temperatures above 42°F.).

Forty full-time beef farmers co-operated in supplying information on their farm businesses. They were located in the vicinity of Fort Steele, Wardner, Jaffray, Waldo, Newgate, Elko and Grasmere. The 40 farms were divided into two equal groups for analysis on the basis of high and low operator's labor income. The purpose of the study was to determine the costs and returns in beef production and to analyze some of the factors accounting for variability in incomes.

Capital Investment

The capital investment per farm averaged $73,806 for the high income group and $65,789 for the low income group. On an animal unit basis, the low income farms had a greater investment in equipment but less in livestock and real estate. The capital investment per animal unit averaged $745 and $727 for the high and low income group farms, respectively (Table 1).

TABLE 1—AVERAGE CAPITAL INVESTMENT PER FARM AND PER ANIMAL UNIT, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income		All Farms
	High	Low	
Number of farms	20	20	40
	dollars per farm		
Total capital investment	73,806	65,789	69,798
	dollars per animal unit		
Land	328	327	328
Buildings	91	81	86
Equipment	106	115	110
Livestock	181	165	173
Crops & miscellaneous	39	39	39
Total capital investment per animal unit	745	727	736

TABLE 2—AVERAGE FARM LIABILITIES PER FARM AND PER ANIMAL UNIT BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income				All Farms	
	High		Low			
Number of farms	20		20		40	
			dollars			
	per farm	per animal unit	per farm	per animal unit	per farm	per animal unit
Owing beginning of year	6,344	64	3,038	34	4,690	49
Net increase in debt	942	10	311	3	627	7
Owing at the end of the year	7,286	74	3,349	37	5,317	56
			per cent			
Liabilities as percentage of average capital investment	9.9		5.1		7.6	

Liabilities

Farm liabilities at the end of the year averaged $5,317, an increase of $627 from the beginning of the year for the 40 farms. At the end of the year the high income group owed $7,286 or $74 per animal unit compared with the low income group which owed $3,349 or $37 per animal unit. Liabilities at the end of the year were 9.9 per cent and 5.1 per cent of the average capital investment for the high and low operator's income groupings, respectively (Table 2).

TABLE 3—AVERAGE CURRENT FARM RECEIPTS AS A PER CENT OF THE AVERAGE TOTAL CURRENT FARM RECEIPTS, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income		All Farms
	High	Low	
Number of farms	20	20	40
		per cent	
Crop sales	3.1	3.3	3.2
Livestock sales			
Beef cattle	67.1	67.9	67.3
Other livestock	0.4	2.1	1.2
Total livestock	67.5	70.0	68.5
Livestock produce	0.5	0.5	0.5
Custom work	1.5	1.5	1.5
Forest products			
Christmas trees	23.0	22.1	22.6
Other forest products	4.4	2.5	3.6
Total forest products	27.4	24.6	26.2
Miscellaneous	—	0.1	0.1
Total current receipts	100.0	100.0	100.0

Financial Summary and Operator's Labor Income

For the 40 farms in the survey, the total current farm receipts averaged $6,965 with beef cattle contributing about 67 per cent of this total. Forest products, mainly Christmas trees, were an important source of farm income accounting for approximately 26 per cent of the current farm receipts (Table 3).

Current average farm receipts for the high income group were $7,808 or $78.81 per animal unit and for the low income farmers, $6,122 or $67.63 per animal unit (Table 4).

The capital receipts and net inventory increase on the high income farms were nearly double those on the low income farms. These two items amounted to $5,056 and $2,599 for the high and low income groupings, respectively (Table 6).

Current average farm expenses for the high income group were $3,984 and for the low income grouping, $3,548, a difference of only $436. The largest single expense item for the high income group was beef cattle expenses followed by equipment operating costs,

TABLE 4—AVERAGE CURRENT FARM RECEIPTS PER FARM AND PER ANIMAL UNIT, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income				All Farms	
	High		Low			
Number of farms	20		20		40	
			dollars			
	per farm	per animal unit	per farm	per animal unit	per farm	per animal unit
Crop sales	244	2.47	202	2.23	223	2.35
Livestock sales						
Beef cattle	5,235	52.84	4,153	45.88	4,694	49.52
Other livestock	32	0.32	130	1.44	81	0.85
Total livestock	5,267	53.16	4,283	47.32	4,775	50.37
Livestock produce	41	0.41	30	0.33	35	0.37
Custom work	113	1.14	90	0.99	102	1.07
Forest products						
Christmas trees	1,797	18.13	1,356	14.98	1,576	16.63
Other forest products	346	3.50	152	1.68	249	2.63
Total forest products	2,143	21.63	1,508	16.66	1,825	19.26
Miscellaneous	—	—	9	0.10	5	0.05
Total current receipts	7,808	78.81	6,122	67.63	6,965	73.47

TABLE 5—AVERAGE CURRENT FARM EXPENSES PER FARM AND PER ANIMAL UNIT, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income				All Farms	
	High		Low			
Number of farms	20		20		40	
	dollars					
	per farm	per animal unit	per farm	per animal unit	per farm	per animal unit
Real estate costs	377	3.81	248	2.74	313	3.31
Building & fence repairs	142	1.43	87	0.96	114	1.20
Crop expenses	448	4.52	499	5.52	474	5.00
Feed purchases	258	2.60	231	2.55	244	2.57
Livestock purchases	944	9.53	394	4.35	669	7.06
Other livestock expenses	280	2.83	219	2.42	249	2.63
Custom work	44	0.44	4	0.05	24	0.26
Equipment operating costs	964	9.72	1,217	13.44	1,090	11.50
Irrigation costs	125	1.26	126	1.39	125	1.32
Labor	238	2.41	339	3.74	289	3.04
Miscellaneous expenses	164	1.66	184	2.04	175	1.84
Total current expenses	3,984	40.21	3,548	39.20	3,766	39.73

TABLE 6—MEASURES OF FARM INCOME PER FARM AND PER ANIMAL UNIT, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income				All Farms	
	High		Low			
Number of farms	20		20		40	
	dollars					
	per farm	per animal unit	per farm	per animal unit	per farm	per animal unit
Current receipts	7,808	78.81	6,122	67.63	6,965	73.47
Capital receipts	1,016	10.26	496	5.48	756	7.98
Net inventory increase	4,040	40.78	2,103	23.23	3,071	32.40
Total receipts	12,864	129.85	8,721	96.34	10,792	113.85
Current expenses	3,984	40.21	3,548	39.20	3,766	39.73
Capital expenses	2,845	28.71	2,372	26.20	2,608	27.51
Total expenses	6,829	68.92	5,920	65.40	6,374	67.24
Family farm income	6,035	60.93	2,801	30.94	4,418	46.61
Less						
Interest on investment (5%)	3,690	37.25	3,289	36.34	3,490	36.81
Value of unpaid family labor	561	5.67	658	7.27	609	6.43
Operator's labor income	1,784	18.01	−1,146	−12.67	319	3.37
Plus						
Perquisites	721	7.28	685	7.57	703	7.41
Operator's labor earnings	2,505	25.29	−461	−5.10	1,022	10.78
Non-farm income	718	—	1,048	—	883	—

real estate and crop expenses in that order. For the low income group, the largest expense item was for equipment operating costs followed by beef cattle, crop and real estate expenses. Current expenses averaged $40.21 and $39.20 per animal unit for the high and low income group farmers, respectively (Table 5).

Annual average capital expenses were $2,845 for the high income farmers and $2,372 for the low income farmers (Table 6).

For the high and low groups respectively, the operator's labor income was $1,784 and −$1,146 or $18.01 and −$12.67 per animal unit.

The differences in earnings indicated that the high income farm operators obtained additional receipts with relatively smaller increases in expenses. Farm receipts for the high group exceeded those of the low income group by $4,143 but their expenses were only $909 greater (Table 6).

Land Use

The average farm size (total acres operated) was 868 acres for the high income group of farms and 716 acres for the low income farms. The pattern of land use for the two groups was very similar. About an acre of land was in grain, 105 acres in forage crops, 15 acres in pasture and one acre in new seeding, vegetables, etc. (Table 7).

TABLE 7—AVERAGE LAND USE, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income		All Farms
	High	Low	
Number of farms.....	20	20	40
		acres	
Improved			
Grain.....	0.9	1.3	1.1
Hay & silage.....	104.7	104.8	104.7
Pasture.....	16.2	14.6	15.4
New seeding, vegetables, fruit, etc.....	1.0	1.5	1.3
Total crop.....	122.8	122.2	122.5
Farmstead.....	1.7	1.8	1.7
Total improved.....	124.5	124.0	124.2
Unimproved			
Cleared grass meadow	274.5	153.2	213.9
Bush.....	445.4	432.0	438.7
Waste.....	24.1	6.3	15.2
Total unimproved.....	744.0	591.5	667.8
Total land operated.....	868.5	715.5	792.0

Use of Fertilizer and Irrigation

Thirty-two farmers out of the 40 used an average of 3.8 tons of fertilizer. Irrigation was used on 34 of the 40 farms in the survey. The 34 farms irrigated an average of about 71 acres for a period of 92 days.

Yields

The hay and silage yields were nearly the same for both groups and averaged 1.8 tons of hay and 7.6 tons of silage per acre for the 40 farms. Grain yields averaged two tons per acre for the high income group but only 0.5 tons on the low income farms (Table 8).

TABLE 8—AVERAGE CROP YIELDS PER ACRE, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income		All Farms
	High	Low	
Number of farms.....	20	20	40
		tons per acre	
Grain.....	2.0	0.5	1.1
Hay.....	1.8	1.9	1.8
Silage.....	7.8	7.5	7.6

Livestock

Beef cattle kept by both groups of farmers were almost 94 per cent of the livestock on the farms, in terms of animal units. The high income farms had a total of almost 100 animal units and the low income farms had about 90 animal units (Table 9).

TABLE 9—AVERAGE NUMBER OF ANIMAL UNITS, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income		All Farms
	High	Low	
Number of farms.....	20	20	40
		animal units per farm	
Beef cattle.....	93.4	84.2	88.8
Other livestock.....	5.7	6.3	6.0
Total animal units.....	99.1	90.5	94.8

In the study year, both groups had about 62 cows per farm. The high income farm grouping had more yearlings and calves than the low income group. For the high and low income groupings, the calf crop was 82 per cent and 77 per cent, respectively (Table 10).

Both groups sold more calves than any other class of beef but the high income group sold proportionately more steers than the low income farms (Table 11).

Also, except for heifers, the high income farm operators obtained on the average more money per animal than the low income group (Table 12).

The value of feed fed per animal unit of beef varied from $46 for the high income farms to $62 for the low income farms. The amount of hay used averaged 1.54 tons and 2.03 tons per animal unit for the high and low income farms, respectively (Table 13).

TABLE 10—AVERAGE SIZE OF BEEF HERD AND PER CENT CALF CROP, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income		All Farms
	High	Low	
Number of farms	20	20	40
	number		
Cows	62.7	62.2	62.5
Heifers—yearlings	15.3	12.2	13.7
—2 years old	7.5	5.4	6.4
Calves	25.1	19.8	22.4
Steers—yearlings	6.8	2.1	4.5
—2 years old	—	[a]	[a]
Bulls	2.3	2.2	2.3
	per cent		
Calf crop	82	77	80

[a]Less than .05.

TABLE 11—AVERAGE NUMBER OF ANIMALS SOLD, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income		All Farms
	High	Low	
Number of farms	20	20	40
	number per farm		
Cows	5.5	6.5	6.0
Heifers	2.6	1.5	2.0
Steers	12.6	2.7	7.6
Calves	29.1	35.7	32.4
Bulls	0.4	0.5	0.4

Labor

Farm operators in both groups worked on the farm approximately the same number of days but the low income farmers used more family and hired labor throughout the year than the high income group. The high labor income group used 1.34 man-equivalents and the low income group 1.48 (Table 14).

TABLE 12—AVERAGE PRICE RECEIVED FOR CATTLE, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income		All Farms
	High	Low	
Number of farms	20	20	40
	dollars per animal		
Cows	147	130	138
Heifers	104	105	104
Steers	136	128	135
Calves	82	76	79
Bulls	234	219	255

TABLE 13—AVERAGE VALUE OF FEED USED AND TONS OF HAY OR HAY-EQUIVALENTS USED PER ANIMAL UNIT, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income		All Farms
	High	Low	
Number of farms	20	20	40
	dollars per beef animal unit		
Home grown grain	43	59	51
Purchased grain	3	3	3
Total grain	46	62	54
	tons per animal unit		
Hay (or hay-equivalent)	1.54	2.03	1.77

TABLE 14—AVERAGE DAYS OF LABOR USED, BY OPERATOR'S LABOR INCOME, 40 BEEF FARMS, EAST KOOTENAY AREA, 1964

	Operator's Labor Income		All Farms
	High	Low	
Number of farms	20	20	40
	days per farm		
Hired labor	22	54	38
Unpaid family labor	87	102	94
Operator's labor	309	307	308
Total labor-days	418	463	440
Man-equivalents	1.34	1.48	1.41

SUMMARY

An analysis of the 1964 business records and practices of a group of 40 farmers in the East Kootenay area of British Columbia was undertaken to determine some of the main factors contributing to differences in farm income. The main findings of the study were the following:

(1) The high and low operator's labor income groups were approximately the same size in terms of number of head of cows with 63 and 62 cows, respectively, but the high income group had more heifers, steers and calves. In total, the high income group had almost 100 animal units compared with about 90 on the low income farms.

(2) Farmers in the two groups operated nearly the same amount of improved land, 122–123 acres. The yields per acre of hay and silage were almost the same for both groups, averaging 1.8 tons of hay and 7.6 tons of silage for the 40 farms.

(3) Total farm expenses were about $900 higher on the average on the high income farms but receipts were higher by over $4,100. The high income farms had receipts of $12,864 and expenses of $6,829 compared with the low income group which had receipts of $8,721 and expenses of $5,920.

(4) With the exception of yearling heifers, the high income group of farmers received better average prices than the low income group, probably because of quality stock in the high income group. The high income farmers sold a greater proportion of steers and proportionately fewer calves than the low income farmers.

(5) The high income farms had a slightly better calf crop than the low group. The calf crop was approximately 82 per cent and 77 per cent for the high and low income groups, respectively.

(6) The high income farmers fed 1.54 tons of hay or hay-equivalent per animal unit compared with 2.03 tons fed by the low income farmers. The value of feed used per beef animal unit amounted to $46 for the high income operators but was $62 for the low income group of farmers.

(7) Both groups of farm operators worked approximately the same number of days but the low income farmers used more hired and unpaid family labor than the high group. The two groupings averaged 1.34 and 1.48 man-equivalents, respectively.

(8) The average capital investment amounted to $745 per animal unit for the high income group and $727 for the low income group. On an animal unit basis, the low income farmers had more capital invested in equipment but less in total real estate and livestock than the high income grouping.

Alberta Potato Marketing Order—The Alberta Potato Commission has been given authority to regulate the marketing of potatoes outside Alberta in a manner consistent with the powers the Commission already exercises for the marketing of potatoes within the Province. (November 4, 1966)

Canadian Wheat Board—Ministerial responsibility for the Canadian Wheat Board has been transferred from the Minister of Finance to the Minister of Trade and Commerce. (November 3, 1966)

Egg Prices—The national average price to producers for Grade A Large eggs was 42.4c per dozen for the support year ended September 30, 1966. No deficiency payment has been made, as the 1965-66 program provided a floor price of 34c per dozen for the first 4,000 dozen eggs and 31c per dozen for each of the next 6,000 dozen eggs. (November 3, 1966)

Rabies Indemnification Regulations—The Federal Government agreed to reimburse the Province of Saskatchewan to the extent of 40 per cent of the amount paid by the Province to owners of animals that die of rabies on or after January 1, 1966. The maximum amounts payable by the Federal Goverment to the Province for animals that died before July 14, 1966 are set at $100 for cattle, $40 for horses, and $16 for sheep, swine or goats. Thereafter, higher maximum rates effective from July 14, 1966 and already included in the regulations—$120 for cattle, $100 for horses, and $40 for sheep, swine or goats—are applicable also to Saskatchewan. (October 17, 1966)

Saskatchewan Broiler Chicken Producers' Marketing Order—The Saskatchewan Broiler Chicken Producers' Marketing Board has received authority to regulate the marketing of broiler chickens in interprovincial and export trade. Hitherto, the Board's authority was limited to the marketing of broiler chickens within the Province. (October 6, 1966)

Manufacturing Milk and Cream Price Stabilization Order, 1966—An amendment to this Order provides for a flat payment, by the Agricultural Stabilization Board, of 75c on the basis of 100 pounds of milk containing 3.5 per cent butterfat, for milk and cream where a producer does not receive fluid milk prices on any portion of these products. The change has been made to permit the Board to increase the selling price of butter, without reducing the flat payment to farmers. (September 8, 1966)

Feed Grain Assistance Regulations—Provision for the payment of assistance in respect of feed grain storage expenses in Canada, and other references to storage assistance, have been deleted. The regulations now relate only to transportation assistance.

A further amendment revises destinations eligible for transportation assistance and the rates of transportation thereto. (August 31; September 27, 1966)

Quebec Eggs for Consumption Producers' Marketing Order—The Eggs for Consumption Producers' Federation has received authority to regulate the marketing of eggs for consumption outside the Province of Quebec. Hitherto, the authority of the federation, under the Quebec Eggs for Consumption Producers' Joint Plan, was confined to marketing such eggs within the Province. (August 24, 1966)

Canadian Dairy Commission Act—This Act, which provides for the establishment of a commission, to be called the Canadian Dairy Commission, came into force by proclamation on October 31, 1966.

PUBLICATIONS

UNITED NATIONS PUBLICATIONS

Available in Canada from the Queen's Printer, Ottawa

Economic Survey of Latin America, 1964, United Nations, New York, 1966, pp. vii + 381. Price: U.S. $4.50.

A comprehensive report by the Economic Commission for Latin America of recent domestic factors, foreign trade, and economic policy and planning in Latin America, including trends in the agricultural sector of production and in exports of primary commodities.

OTHER PUBLICATIONS

Not available from Economics Branch

Technical Changes on Fluid Milk Farms 1940-1964, Haessel, Walter and George R. Winter, Department of Agricultural Economics, University of Alberta, Edmonton. Agricultural Economics Technical Bulletin 2. August 1966. pp. viii + 106.

The main purpose of this study was to investigate and measure the contribution of technical change to productivity on fluid milk farms in the Edmonton milk shed during the period 1940 to 1964. In addition to assessing the rate of disembodied and cow-embodied technical change, the study suggests some methods by which the model may be extended to involve a measure of the quality changes in all factors.

Marketing Flue - Cured Tobacco in Ontario, McGregor, M. A. and G. Klosler, Department of Agricultural Economics, University of Guelph, published in co-operation with the U.S. Department of Agriculture. July 1966. pp. 126.

This is a study of the development of producer marketing of flue-cured tobacco in Ontario; of the organization and policies of the Ontario Flue-Cured Tobacco Growers' Association; the organization and activities of the Ontario Flue-Cured Tobacco Growers' Marketing Board; methods of farm handling of Ontario tobacco; the operations of the Auction Exchange; marketing, income and cost analyses, and a comparison of the cost of operating tobacco marketing systems in Canada, the United States and Rhodesia.

How Much Does Farm Labor Earn? Vanneste, C. J. and G. I. Trant, Department of Agricultural Economics, Ontario Agricultural College, University of Guelph. Ontario Department of Agriculture and Food, Toronto, 1966. Pub. No. N-4-66-500. pp. 10.

A study of the productivity, or earning power, of farm labor on Dairy General and Cash Crop farms in Ontario, the data used being obtained from farm accounts submitted by farmers participating in the Ontario Farm Management and Accounting Project during 1964.

1965 Saskatchewan Farm Business Summary. Drew, J. L. and J. F. Hickie, H. H. Mattila, J. K. Gronsdahl, T. J. Burwell, Farm Management Division, Agricultural Representative Branch, Saskatchewan Department of Agriculture. Extension Report No 10. September, 1966. pp. 81.

An analysis of the 1965 farm records, including summary tables by soil zones, of 405 grain and grain-livestock farms in Saskatchewan.

Country Livestock Auctions and Market Performance. Manning, Travis W., Department of Agricultural Economics, University of Alberta, Edmonton. Agricultural Economics Technical Bulletin 1. September, 1966. pp. ii + 36.

A report examining the role of country auctions in the Alberta livestock marketing system, including the market characteristics, practices and results of these auctions in Alberta.

An Economic Analysis of the Feed Freight Assistance Policy. Kerr, T. C., Agricultural Economic Research Council of Canada. Publication No. 7. September 1966. pp. xi + 152. Price, $2.00.

A study of the impact of the Feed Freight Assistance Policy on agriculture and the Canadian economy, including proposals for an alternative for public policy.

The Geography of the Orchard Industry of Canada, Krueger, Ralph R., Department of Geography, University of Waterloo, Waterloo, Ontario (ex "Geographical Bulletin", Vol. 7, No. 1, pp. 27-71, Queen's Printer, Ontario, 1966.)

A separate of an article originally published in the "Geographical Bulletin", which discusses the following three aspects of the orchard industry of Canada: orchard trends and economic conditions; the development of regional specialization; and the delimitation of orchard regions.

Variation in Farm Income of Farms in Eastern Ontario by Farm Type and Farm Class, Noble, Henry F., Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture and Food, Toronto, November 1965 (Reprint May 1966). pp. 44 + 12

A report of an A.R.D.A. study of selected farms in eastern Ontario showing variations in farm income, based on 299 farm records during 1963, in a Dairy General farming area. This publication also includes an economic classification of farms in eastern Ontario.

Beef Retailing Margin in Toronto Chain Stores, 1965, Contini, A. and H. Weijs, Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture and Food, Toronto, April 1966. pp. 34.

A study, requested by the Ontario Food Council, of beef pricing by six major chains in Toronto during 1965.

Western Manitoba Farm Business Association, Report for 1965, Ackerman, Jerry, Department of Agricultural Economics and Farm Management, the University of Manitoba, July 1966. pp. ii + 17.

A recent assessment of the resources and efficiency of 76 member farms of the Western Manitoba Farm Business Association.

Dairy Farm Business Analysis, Central and Western Nova Scotia, 1965, Farm Management Division, Extension Services Branch, N.S. Department of Agriculture and Marketing, Truro, N.S., July 1966. pp. 10.

A collective summary of the 1965 performance of 61 dairy farms, located in the 12 counties of the western and central region of the Province, who participated in the Department's Farm Management Extension program.

Dairy Farm Business Analysis, Eastern Nova Scotia, 1965, Farm Management Division, Extension Services Branch, Department of Agriculture and Marketing, Truro, N.S., July 1966. pp. 10.

This is a collective summary of the 1965 performance of 38 dairy farms, located in the six eastern Nova Scotia counties, who participated in the Department's Farm Management and Extension program.

Sugar Beets in Ontario, Production Costs, Returns and Management Practices. Fisher, G.A. Published by Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture and Food. pp. ii + 45.

This report is compiled from the information provided by several hundred farmers in the sugar beet growing counties of Ontario. The period of study covers the years 1957 to 1960.

Carman District Farm Business Association, Annual Report 1965, Hudson, J.P., Department of Agricultural Economics & Farm Management, the University of Manitoba, June 1966. pp. i + 27.

An analysis of 1965 farm record data supplied by 78 members of the Carman District Farm Business Association.

Available from Economics Branch, and the British Columbia Department of Agriculture

The Dairy Industry in British Columbia. Rayner, L.C., L.E. Drayton, K.E. Cann, E.D. Woodward (Economics Branch, Canada Department of Agriculture), and J. R. Meredith (British Columbia Bureau of Economics and Statistics, Victoria). September 1966. pp. 92.

This joint study examines the structure of dairy farming in British Columbia; the present and projected consumption of dairy products in that Province; fluid milk pricing (at the producer level); production costs in major producing areas, and the present and prospective processing and distribution patterns for dairy products in British Columbia.

STATISTICAL APPENDIX

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1965-66

Commodity, grade and market	1965			1966			
	Average	Sept.	Oct.	July	Aug.	Sept.	Oct.
				dollars per cwt.			
CATTLE (weighted average prices at public stockyards)							
Good slaughter steers							
Toronto	24.00	24.50	24.50	24.50	24.50	25.97	26.50
Winnipeg	23.25	23.55	23.45	24.10	24.17	24.88	24.98
Calgary	22.65	22.86	22.65	23.52	23.43	24.11	24.22
Good feeder steers							
Toronto	22.70	23.71	24.00	28.00	26.03	27.34	28.00
Winnipeg	22.05	22.84	22.12	24.58	25.93	25.42	24.33
Calgary	21.95	23.13	22.09	23.86	23.37	24.72	25.00
Good and choice veal calves							
Toronto	30.50	29.32	30.77	34.14	33.95	34.42	34.50
Winnipeg	29.80	27.94	29.73	32.24	31.50	35.01	34.41
Calgary	23.10	—	—	27.55	25.14	26.31	27.00
HOGS (weighted average prices at public stockyards, Grade A dressed)							
Toronto	33.40	36.88	35.90	35.12	33.98	33.92	33.94
Winnipeg	31.65	34.93	34.75	33.28	34.63	33.68	32.12
Calgary	28.55	32.00	32.57	31.46	33.39	32.71	32.69
LAMBS (weighted average prices at public stockyards, Good lambs)							
Toronto	26.70	23.44	23.12	26.87	23.23	22.99	22.64
Winnipeg	21.30	19.94	21.46	23.78	19.70	19.19	20.17
Calgary	20.75	19.54	19.35	22.08	20.13	18.17	18.61
FLUID MILK (f.o.b. factory)							
Halifax	5.71	5.71	5.71	6.10	6.10	6.10	6.10
Montreal	5.10	5.10	5.10	5.35	5.55	5.55	5.55
Toronto	5.26	5.26	5.26	5.75	5.75	5.75	5.75
Winnipeg	5.20	5.20	5.20	5.48	5.48	5.48	5.48
Vancouver	6.19	6.31	6.39	6.57	6.62	6.69	6.72
MANUFACTURING MILK (average farm value)[a]							
Nova Scotia	2.74	2.74	2.74	3.07	2.99	3.06	—
New Brunswick	3.01	3.01	3.08	3.20	3.21	3.27	—
Quebec[b]	3.05	3.00	3.27	2.83	2.92	2.91	—
Ontario	2.99	2.99	3.14	2.97	3.01	3.12	—
British Columbia	3.03	3.08	3.09	3.28	3.28	3.28	—
BUTTERFAT (for butter, average farm value)[a]				cents per lb.			
Prince Edward Island	69.4	69.5	69.5	63.0	63.5	66.0	—
Quebec[b]	84.7	83.6	89.3	82.5	81.0	82.8	—
Ontario	73.8	74.1	74.1	74.7	74.6	76.3	—
Saskatchewan	65.3	65.4	65.3	59.0	59.2	60.5	—
British Columbia	68.9	69.5	69.5	80.5	80.5	82.0	—
EGGS (average paying prices at registered grading stations, Grade A Large)				cents per doz.			
Halifax	36.3	43.2	52.8	39.2	53.4	51.8	55.3
St. Anselme	35.3	42.2	51.9	37.8	53.7	54.8	54.8
London	35.1	41.0	50.9	41.7	53.0	53.1	53.8
Winnipeg	30.6	37.5	47.2	38.7	45.7	42.2	45.1
Vancouver	36.4	39.5	46.0	38.0	43.8	45.0	41.1
BROILERS (average prices paid to growers No. 1 grade chicken under 5 lbs.)				cents per lb. live			
Toronto	18.8	19.5	19.5	19.8	20.5	20.5	20.5
Edmonton	20.5	21.0	21.0	22.5	22.1	21.9	21.5
TURKEYS (average prices paid to producers, No. 1 grade, 12-20 lbs.)							
London	25.4	25.9	27.0	23.4	23.7	25.0	25.5
Edmonton	24.3	24.1	25.9	—	23.5	25.4	25.5

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1965–66 (Continued)

Commodity, grade and market	1965-66 Crop Year Average	1965		1966			
		Sept.	Oct.	July	Aug.	Sept.	Oct.
POTATOES (Canada No. 1 Table, average prices to growers)				dollars per cwt.			
Prince Edward Island	2.85	1.50	2.17	1.37	1.58	1.40	1.39
New Brunswick	2.28	1.20	2.05	—	1.18	1.12	1.19
Southwestern Ontario	2.83	2.40	2.55	—	1.80	1.85	1.87
EASTERN GRAINS				cents & eights per bu.			
Oats (Ont. No. 2 White, f.o.b. shipping points)	78	78	78	78	78	78	78
Barley (Ont., good malting, f.o.b. shipping points)	145	145	145	145	145	145	145
Corn (Ont. No. 2 Yellow, f.o.b. Chatham, 15% moisture, in carlots)	144/6	154	146	148	152	157/2	147/4
Soybeans (Ont. No. 2, f.o.b. Chatham)	300/7	270/6	274/7	364/2	339/7	327	310/1
WESTERN GRAINS (basis in store Fort-William/Port Arthur less freight and elevator handling charges)				cents & eights per bu.			
Red Spring Wheat (No. 2 Nor.)							
Winnipeg	183/6	177/3	178/5	193/6	195/1	196/2	195/2
Regina and Edmonton	180/2	173/7	175/1	190/2	191/5	192/6	191/6
Durum Wheat (No. 1 C.W.A.D.)							
Winnipeg	187/6	180/3	181/5	205/2	211/6	210/4	211/2
Regina and Edmonton	184/2	176/7	178/1	201/6	208/2	207	207/6
Feed Wheat							
Winnipeg	160/4	155/2	155	172/4	174	175/5	177/2
Regina and Edmonton	157	151/6	151/4	168/6	170/4	172/1	173/6
Oats (No. 1 Feed)							
Winnipeg	76/5	73/5	73/5	81/4	81/7	81/4	81/3
Regina	74/5	71/5	71/5	79/4	79/7	79/4	79/3
Edmonton	72/5	69/5	69/5	77/4	77/7	77/4	77/3
Barley (No. 1 Feed)							
Winnipeg	117	116	116/4	118/4	122	121/7	121/6
Regina	114	113	113/5	115/5	119/1	119	118/7
Edmonton	111/2	110/2	110/6	112/6	116/2	116/1	116
Rye (No. 2 C.W.)							
Winnipeg	120	115/2	116/4	127/3	126/4	124/5	117/6
Regina	116/5	111/7	113/1	124	123/1	121/2	114/3
Edmonton	113/3	108/5	109/7	120/6	119/7	118	111/1
Flaxseed (No. 1 C.W.)							
Winnipeg	290/5	305/3	297/5	287/1	292	292/2	284
Regina	287/4	302/1	294/3	283/7	288/6	289	280/6
Edmonton	283/7	298/5	290/7	280/3	285/2	285/4	277/2

[a] Since the average farm values for manufacturing milk and butterfat published by the Dominion Bureau of Statistics (D.B.S.) do not include the Federal subsidies as of April 1, 1966, it is necessary to add, during the 12-months' period ending March 31, 1967, the Federal payment of 85 cents per hundred pounds of milk testing 3.5% butterfat to obtain the full returns to producers. Ten cents are retained for export aid. The net payment of 75 cents per cwt. is made directly to farmers, at the equivalent rate of 21.43 cents per pound of butterfat.

[b] In the province of Quebec, and beginning April 1, 1966, full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote [a]), plus a payment made by the Quebec government. This payment is made on butterfat at the rate of five cents per pound from April 1 to September 30 and at the rate of 10 cents per pound from October 1 to March 31. Prior to April 1, 1966, this payment, which began in October, 1964, was made through factories and was part of the producer's farm value.

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HON. J. J. GREENE, MINISTER—S. C. BARRY, DEPUTY MINISTER

ECONOMICS BRANCH CANADA DEPARTMENT OF AGRICULTURE

This issue of CANADIAN FARM ECONOMICS contains the background papers presented to the 27th annual Federal-Provincial Agricultural Outlook Conference, held in Ottawa, November 22 and 23, 1966. These papers were prepared by committees representative of the Departments of Agriculture, Finance, Forestry, Industry, Manpower and Immigration, Trade and Commerce, the Dominion Bureau of Statistics and the Bank of Canada. The reports as presented to the Conference were based generally on information available at mid-October. Wherever possible, the reports have been updated to include data which became available by mid-December.

CANADIAN FARM ECONOMICS

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CANADIAN FARM ECONOMICS

GENERAL ECONOMIC SITUATION AND OUTLOOK

INTERNATIONAL ECONOMIC SITUATION AND OUTLOOK

Situation

World economic growth strengthened late in 1965 and in the early months of 1966, strongly influenced by a marked acceleration in the pace of business in the United States and Canada. Despite a significant loss of momentum in subsequent months, the trend of world production and trade has continued to move moderately higher. The year to year rise in world output was supported by improving business conditions in France, Italy, and Japan, now recovering from recent economic slow-downs, as well as by substantial production gains achieved by the United States and Canada. Slower growth of other important industrialized countries was in large part a consequence of official measures taken to contain inflationary pressures. The foreign earnings of primary producing countries as a group benefited from strong international markets at the beginning of the year, but their growth has moderated with the recent slowing in the expansion of several major industrial economies.

In the United States rapid acceleration in economic activity in early 1966 was followed by a much slower pace of overall growth in the later months of the year. The private investment boom continued as a major stimulus to expansion. Business spending for new plant and equipment rose 17 per cent compared with 1965, sustaining the strong advance of the previous two years. On the other hand, residential construction declined after remaining level in 1965, as a result of an acute shortage of mortgage funds. An important factor contributing to the expansion was the rising trend of government defence expenditures associated with increasing military operations in Vietnam. State and local government outlays have also continued to rise.

The trend of consumer spending increased much more slowly after the first quarter of 1966. Sales of consumer durables, particularly of new cars, have eased, though they still are at high levels in comparison with earlier periods of the current expansion. Federal tax changes, including higher social security taxes, and a tightening credit situation contributed to a slowing in consumer expenditures.

Even with more moderate growth in overall demand the upward pressure on prices and wages remained high. Monetary policy became progressively more restrictive in the face of continuing strong demand for loans and led to further increases in lending rates. In September in a move to curb investment spending, President Johnson asked Congress to suspend for sixteen months the seven per cent investment tax credit and the accelerated depreciation allowed on commerical and industrial buildings. He has also promised to cut government expenditures to lessen pressure on resources. In the first half of 1966 imports grew rapidly while exports increased very little and the merchandise trade surplus continued on the declining trend evident in 1965.

In Britain, domestic demand pressures remained very high in 1966 in spite of a series of official restraining measures taken since the fall of 1964. Growth in the economy continued at a low rate under conditions of very little slack in manpower and other resources. There was little or no further improvement in the trade balance during the first half of 1966, partly because of the disruptive effect on exports of the seamen's strike in early summer. More recent trends have shown an improvement in exports, though imports have continued at a high level. The temporary surcharge on imports reduced from 15 per cent to 10 per cent early last year, was completely removed at the end of November 1966. Industrial production has slowed and in September was slightly lower than a year earlier. The British Government introduced far-reaching measures at the time of the Budget in May and again in July to re-establish confidence in sterling and, more fundamentally, to achieve structural shifts in the economy to facilitate increases in productivity and ease upward price and wage pressures. The voluntary wage and price "standstill" provided for in the July program was subsequently made compulsory retroactive to July 20, under legislation introduced in October.

Economic growth continued in Continental Europe taken as a whole, although there were mixed trends

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for individual countries. The pace of expansion accelerated in France and Italy and continued at high levels in some of the smaller countries. But growth has slowed somewhat in Germany, Denmark and Norway. Demand conditions remained strong in nearly all countries and restrictive policies to curb too rapid an increase in prices and wages have been maintained or reinforced, with the exception of France and Italy where there has been a progressive relaxation of restraints.

Economic recovery got under way in Japan late in 1965 and growth in overall output has risen steadily during 1966. The authorities promoted a faster rate of expansion by an easing of restrictive credit policies, a substantial reduction in taxes and by increases in public investment programs. The economy gained as well from continuing vigorous expansion of exports, and the current account has remained in considerable surplus.

Available information indicates that production in the USSR expanded at a rate comparable to that in the previous year, though this is well below the strong growth rate achieved during the early postwar period. The new Five-Year Plan that started in January reaffirms the Soviet authorities intention, as announced in 1965, to carry out important economic reforms, including the introduction of some elements of Western style marketing economics into the Soviet system. Under the Plan an attempt will be made to raise the productivity of the agricultural and light industry sectors to the higher level of the industrial and heavy industry sectors.

The primary producing countries have continued to accumulate reserves. However, the pattern has varied considerably from country to country. Some of the more highly developed countries in this group, including Australia and South Africa, have shown considerable improvement in their balance of payments position compared with a year earlier.

Outlook

While there are more uncertainties in the current situation than for some time, the prospect for the industrial countries as a whole is for moderate growth to continue in 1967. In the principal industrial countries domestic demands remained generally at a very high level in 1966 and their governments for the most part have maintained policies designed to ease pressure on resources and reduce the rate of increase in prices.

In the United States, despite a slowing in the growth trend from the very high rate at the outset of 1966, a moderately upward trend is expected to continue in the coming year. Capital investment may again increase, if more slowly than in the last few years; no early slow down in the vigorous trend of government expenditures appears likely, and the pace of consumer spending should be well supported by the marked increases that have been achieved in personal income.

As a result of the severe measures recently adopted to reduce domestic demand, Britain is unlikely to expand its total output significantly next year, though the proportion produced for export may rise.

Overall production in other industrial countries should move moderately higher, supported in particular by continuing recovery and gradual economic expansion in France, Italy and Japan.

Continuing growth indicated for industrial countries in 1967 should help to sustain or increase the export earnings of primary producing countries. Recent movements of basic commodity prices suggest some easing in trend since early in 1966, however, and the increase in the contribution of primary exports to the foreign exchange holdings of these countries is likely to be quite modest.

CANADIAN ECONOMIC SITUATION AND OUTLOOK

Situation

Canadian output continued to move higher during 1966, but the rate of expansion in aggregate production slowed following a strong surge in the opening quarter of that year. Overall demands continued strong, adding to existing pressures on plant and manpower resources, and contributing to a faster rise in costs and prices. The stronger increase in wages, together with a slowing in productivity improvement, combined to push Canada's unit labor costs higher. To moderate the pace of advance, the March 1966 Federal Budget included measures to increase personal income taxes about 10 per cent or almost back to the year-earlier levels, and provisions to restrain investment spending. The expansion this year in total capital spending, both public and private, was substantial and comparable to the major increases that took place in each of the preceding two years. The tempo of activity was stimulated also by a marked rise in merchandise exports after the moderate increase of 1965. Though consumer durable purchases have slowed, consumer spending for non-durables and services continued to show significant gains. The Gross National Product in the first half of 1966 was at a level of $56.6 billion, seasonally adjusted at annual rates, 11 per cent higher than in the first half of 1965. After allowing for the faster rise in price levels the expansion of output over the past year amounted to about seven per cent in real terms.

Persistence of a strong trend in capital investment was an important source of increasing pressure on

available labor and materials in 1966. Canadian business spending rose sharply again after the major increases made by this sector in 1964 and 1965, with very substantial increases in manufacturing, mining, public utilities and commercial services. Investment in social capital increased though more slowly than in the previous year. Construction of new housing declined from its high 1965 level, restrained by increasing tightness of credit and a scarcity of mortgage funds.

Buoyant personal income trends gave support to a continuing upward movement of consumer spending, though a larger share of the increase was due to mounting prices for consumer goods and services than in 1965. Labor income made large gains with above-average increases in both employment and wages, and farmers' earnings were boosted by the firmness in farm product prices and excellent crops, including a record wheat harvest. Domestic auto sales eased a little following the notably strong gains that have been recorded in the past four years. Apart from the leveling in car sales, consumer spending for most goods and services continued to show good gains.

An impressive rise in merchandise exports contributed substantially to the vigor of Canadian economic activity this year. The total value of merchandise exports was 17 per cent higher in the first seven months of 1966 than a year earlier. Exports to the United States continued to strengthen after rising significantly in 1965, sparked by the high tempo of economic activity in that country. Total values were boosted as well by a return to capacity rates of overseas wheat and flour shipments, with Communist countries' purchases, in particular, much higher than in 1965. There were significant gains in sales to Western Europe and to Japan, but exports to Britain and other Commonwealth markets slowed during 1966.

The acceleration of output during the last quarter of 1965 and in early 1966 was followed by a slowing in the overall pace of growth. This was to be expected, since operations had reached capacity levels in many industries. Nonetheless the level of industrial production has shown a further sizable increase in 1966 compared with 1965. On the basis of figures for the first nine months, production of most industrial goods and commodities was well above a year earlier. Motor vehicle production was higher also in this period, but the increase narrowed appreciably over the course of the year.

There was a further large increase in employment during the year. The total number of those at work in the first ten months of 1966 was four per cent higher than a year earlier, with construction, manufacturing, service and trade industries accounting for most of the additional workers. A quickening in labor force growth has been noted in the past two or three years, partly reflecting a substantial increase in immigration, but gains in employment during most of this period have been even larger. The seasonally-adjusted rate of unemployment averaged 3.6 per cent in the first ten months of 1966, compared with 4.0 per cent in the first ten months of 1965.

The approach to capacity operations in many industries has added to upward pressures on Canadian costs and prices. The Consumer Price Index increased 4.3 per cent from October 1965 to October 1966 compared with a rise of 2.7 per cent over the previous 12 month period. The Wholesale Price Index also rose somewhat faster in this period than a year earlier with each principal component group showing significant increases. Prices of sensitive commodities on international markets have followed mixed trends. The prices of principal metals remained high, though under less upward pressure than at the end of 1965. Prices of cereals increased, but there have been declines for several other basic commodities over the past year.

Interest rates have risen considerably in Canada since the early part of 1965 as they have in the U.S.A. and a number of European countries. The rate on Government of Canada Treasury Bills increased from $3\frac{3}{4}$ per cent in April 1965 to over 5 per cent at the end of March 1966 and has remained around this general level since that date. Since early 1965 the average yield on Government long-term bonds has risen from 5 per cent to about $5\frac{3}{4}$ per cent in October 1966. These rates reflect the extremely strong demand for credit which has been the dominant characteristic of financial markets in 1966. Credit has also been extremely tight in the mortgage market where rates on conventional mortgages are in a range from $7\frac{3}{4}$ to 8 per cent, or more in certain areas of the country. Many demands for mortgages are being turned down or deferred to 1967 as life insurance companies and trust companies have fully committed funds available for disbursement in 1966.

Outlook

Canadian economic activity is expected to increase again in 1967 although some slowing in expansion has occurred since early in 1966. The basic factor behind the more moderate rates of real increase is that the economy is now effectively fully employed and cannot readily draw on slack resources for expansion. A more moderate rate of real growth in 1967 than in the current year is indicated, though pressures

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on wages and prices may be a matter of continuing concern.

World economic conditions on the whole appear to present a favorable environment for continuing high levels of Canadian export trade. Further expansion now regarded as likely in the American economy, may promote another increase in Canadian sales to the U.S.A. after their sharp gains in 1965 and 1966. Canadian exports to overseas markets should remain firm and possibly strengthen on the basis of a continuing strong demand situation in most of the industrial countries. Longer-run contracts to supply large quantities of wheat to Communist countries provide an important additional measure of stability to the Canadian export trend.

Some part of the very large investment program planned for 1966 may not be completed on schedule, and there is accordingly a prospect of a considerable carryover into the new year. It seems likely therefore that the trend of investment spending will continue strong for some time, though the rise in spending intentions for 1967 may be less than in the year now ending. Despite a recent slower increase in consumer durable purchases, consumer spending should move higher and remain an important positive influence on business levels.

INTERNATIONAL AGRICULTURAL SITUATION AND OUTLOOK

Production and Stocks—In crop year 1965-66 (ended June 30) world agricultural production, excluding Mainland China, rose by about one per cent over 1964-65. Production is estimated to have increased in North America, Western Europe, Latin America and the Near East. In Eastern Europe including the Soviet Union, total farm output remained at the 1964-65 level but there was a decline in Oceania, the Far East and Africa. On a per capita basis agricultural output, as well as food production, in the world as a whole declined by about two per cent in 1965-66. In the developing regions per capita food production dropped back four per cent to the inadequate prewar level.

World agricultural production in 1966-67 will probably remain close to the 1965-66 output level. The impact of drought on U.S. farm production may more than offset the record Canadian output this year. Total agricultural output in Latin America may be from three to five per cent below the record 1965-66 level. In the Far East, crop prospects in general are no better than normal and probably slightly below normal. In both Western and Eastern Europe a grain harvest close to the 1965 level is forecast. In the Soviet Union, however, the 1966 grain output may reach a record level. The outlook for livestock production appears favorable in Europe and the Soviet Union.

Total grain stocks in the United States, Canada, Australia and Argentina on July 1, 1966, had declined to about 98 million tons, or by 14 cent from 1965. The decrease was largely in the carryovers of wheat, which at only 33.5 million tons (1.2 billion bushels), was at the lowest level since 1953 and 47 per cent less than the peak level of 1961, reflecting mainly the large import requirements of India, the USSR and Mainland China. However, the other component, coarse grain stocks, remained at about the 1965 level. World stocks of butter declined but stocks of coffee, sugar, cocoa and cotton increased further, reaching postwar record levels in the case of coffee, sugar and cotton.

Trade and Prices—The volume of world trade in agricultural products in the calendar year 1965 remained at the 1964 level but the value declined by one per cent. Some increase occurred in world exports of oilseeds and vegetable oils, fruits, meats and dairy products, whereas exports of grains, sugar, tobacco and beverages declined.

The fall in the average world market price of agricultural products that started in early 1964 continued through most of 1965 with the index of world export prices for primary agricultural products declining by about 13 per cent from the 1964 level. In the first half of 1966, however, world prices for agricultural products strengthened in general, and the index exceeded by three per cent the level of index in the corresponding period in 1965. However, there was some variation among commodity groups; for example, prices for grains and meats showed an upward trend while prices for dairy products, sugar, oilseeds and oils declined.

Agricultural Policies and Programs—There have been two major agricultural policy developments in the United States in 1966: the Food for Peace Act of 1966 and the measures to encourage a selective expansion in farm output. The Food for Peace Act will provide the basis of U.S. food aid shipments over the next two years. It includes the main principles of P.L. 480 but contains two major changes from the previous food aid program. One is the linking of food aid with self-help by recipient countries. The second major change is the elimination of the requirement which has limited the commodities going into food aid to those declared in surplus. The Act also provides for a progressive shift from local currency sales to long-term dollar credit sales by 1971. Authorized under the Act

are annual expenditures up to $1.9 billion for sales for local currency or long-term credit (Title I) and $600 million for donations (Title II), including the U.S. donation to the World Food Program. Including a $2.4 billion carryover, the total authorization for the two year period amounts to $7.4 billion.

The U.S.A. has also taken measures to encourage a selective expansion in agricultural output. The measures include raising the support price for milk and soybeans, increasing by ten per cent the acreage allotment for rice, withdrawing the incentive for additional acreage diversion of land from spring wheat and increasing the 1967 national acreage allotment for wheat by 30 per cent—to 68.2 million acres. The U.S. Department of Agriculture has estimated that as a result of the larger acreage allotment, wheat production in the United States in 1967 could be at 1.6 billion bushels, about 300 million bushels more than the 1966 output. In addition, measures have been taken to increase feed grain production in 1967 and they include a 50 per cent reduction in land diverted from corn and grain sorghum and increases in the support prices for these crops.

Britain continued to adjust details of her price policy in line with the general objective of a selective increase in production; for wheat, barley and hogs the last price review put greater emphasis on adjusting the quantities to which the guarantees apply rather than raising the guaranteed price. In negotiations with New Zealand, commitments on quantitative access for New Zealand's major export products into the British market were granted until September 1972 and the 1959 Trade Agreement was also extended for a definite period of three years from January 1, 1967. The Anglo-Irish Free Trade Agreement came into force on July 1, 1966. On that date Britain removed import duties and quantitative restrictions on virtually all Irish products, and Ireland began a series of ten per cent yearly tariff cuts to be completed in 1975.

Following the Seven-Year Plan for 1959-65, a new Five-Year Plan has begun in the Soviet Union. The targets for the new Five-Year Plan (1966-70) are considerably lower than those formerly envisaged for 1970 in the twenty-year plan. The overall target for agricultural production calls for an increase of 25 per cent on the average for 1966-70 above the average for 1961-65. The 1970 grain production target is now set at 180 million metric tons, compared with 230 million tons projected in the long-term plan. (The 1965 grain output was 120.5 million tons; for 1966 it has been unofficially estimated at 160-165 million tons.)

In the European Economic Community (EEC) agreement was reached in May 1966 for financing the Common Agricultural Policy and July 1, 1968, was set as the firm date for full establishment of the agricultural common market which is expected to include more than 90 per cent of EEC farm production.

On July 24, 1966, the EEC agreed on a package arrangement covering market organizations for fruits and vegetables, sugar, fats and oils. Common prices were set for milk and dairy products, beef and veal, sugar, rice, oilseeds and olive oil. These decisions followed upon earlier action designed to eliminate Member States' restrictions on internal trade in these commodities, and implementation is now under way.

It was in 1962 that the Council created the market organization for grain, poultry, eggs, and pork and made preliminary decisions on fruits and vegetables. In February 1964, market organizations for rice, dairy products, and beef and veal were formulated. In December 1964, the first of the common prices, covering grains, was adopted.

The recent fruits and vegetables decision was reported as the most difficult to reach. The final proposal provided a range of support prices for three classes of fruits and vegetables. This approach will not be applied until 1970, and thus member states can establish support prices in the meantime. A $60 million annual ceiling was placed on Community subsidy expenditures for fruits and vegetables for a three year trial period.

For sugar, a Community-wide quota was adopted, to be divided among the member states. Only production within this quota will be eligible for Community financing for support buying or export subsidies.

The fats and oils regulation provides for the elimination of quantitative restrictions and for duty-free entry for most oilseeds, tariffs ranging from 3 to 15 per cent on vegetable oils, direct subsidies and a minimum price for internal rapeseed and olive oil production, and a price and levy system for olive oil modeled on the grain regulations. Direct aids to production are foreseen for fats and oils. The Associated Overseas Territories will have preferred access to the Community for oils.

The following are the common prices set on July 24, 1966, by the EEC Council:

	U.S. $/100 k.g.	Approx. Can. $/100 lbs.
Milk		
Target price of milk with 3.7 per cent fat content, ex farm	9.75	4.75
Delivered dairy	10.30	5.02
Support price for butter	176.25	86.35
Beef-veal		
Guide price for adult cattle (live)	66.25	32.45
Guide price for calves (live)	89.50	43.85
Sugar		
Minimum price of sugar beets per metric ton (within the basic quotas)	17.00/ton	16.58/ton
Minimum price (outside the basic quotas and up to 135 per cent)	10.00/ton	9.53/ton
Target price of white sugar	22.35	10.89
Support price of white sugar	21.23	10.35

	U.S. $/100 k.g.	Approx. Can. $/100 lbs.
Rice		
Basic target price	18.12	8.88
Support price		
Italy	12.00	5.87
France	12.30	6.03
Threshold price for the region with the largest deficit (Duisburg)	17.78	8.70
Oilseeds (colza, rapeseed, sunflower seed)		
Target price	20 25	9 87
Basic support price	19.25	9.38
Lowest support price	17.65	8.60
Olive oil		
Producers' target price	115.00	56.07

International Trade Policy Developments

"*Kennedy Round*" *of Trade Negotiations*—These negotiations were formally launched in May 1964. For most participating countries the negotiations on industrial goods are to be conducted on the basis of across-the-board tariff cuts (linear) with a minimum of exceptions, rather than on a selective product-by-product basis as in previous negotiations. It was recognized, however, that the linear approach would not be appropriate for countries with a special trade structure, such as Canada, and it was agreed that these countries should make a positive offer based on the benefits they expect to receive from the negotiations. Consequently, when in November 1964, the U.S.A., Japan, the EEC, Britain, Switzerland, Austria and the Scandinavian countries tabled their industrial exceptions lists, detailing those products to be excluded from the 50 per cent reduction, Canada instead submitted a positive offer of concessions.

With regard to agricultural goods, it was agreed that special international arrangements might be required for cereals, meats and dairy products, and groups were established to negotiate them. In May of 1965, the members of the special group for cereals—Argentina, Australia, Canada, the EEC, Japan, Britain, the U.S.A. and Switzerland—tabled their offers. Offers have now also been tabled in the special groups for meat and dairy products.

With respect to other agricultural products (including tropical products), most participants exchanged offers in September of 1965. Australia and New Zealand, due to their predominant interest in agricultural commodities, submitted their complete offer lists at this time. The EEC, however, failed to meet this tabling date due to difficulties over the future of the Common Agricultural Policy. With these difficulties resolved, the EEC tabled all its remaining offers in June 1966 and resumed its place as a full participant in the negotiations.

Detailed negotiations have now been joined among all participants and in all sectors, with a view to their completion early in 1967. Besides the industrialized countries, some 25 countries are engaged in the negotiations under the special procedures for less developed countries. Arrangements are also being worked out for the full participation of Czechoslovakia, Poland and Yugoslavia in the Kennedy Round.

UNCTAD—The First U.N. Conference on Trade and Development was convened in 1964 in response to recognition by U.N. member states of the growing needs of developing countries. The UNCTAD was established in 1965 as a permanent body of the U.N. with its headquarters in Geneva. Provision has been made for the UNCTAD to meet every three years. The Second Conference is scheduled to take place in New Delhi in September 1967.

The main Committee of the UNCTAD concerned with developments in the agricultural field is the Committee on Commodities. This Committee has primary responsibility for making recommendations concerning the convening of commodity negotiating conferences and the establishment of new commodity study groups and committees. The Committee on Commodities held its First Session in July 1965 and the Second Session takes place in January 1967.

On the advice of the Secretary-General of UNCTAD, a U.N. Sugar Conference was convened in the autumn of 1965 and a U.N. Cocoa Conference in the spring of 1966 to negotiate international commodity agreements. The Sugar Conference made little progress in relation to the main issues but an UNCTAD Preparatory Working Group continues, under the Chairmanship of the Executive Director of the International Sugar Council, to seek an effective basis for resumption of the U.N. Sugar Conference. The Cocoa Conference was more successful than its 1963 predecessor and a large measure of agreement was reached on all elements other than prices and the operation of the buffer stock. Prospects appear good that the Cocoa Conference will be reconvened before the end of 1966 or early in 1967.

Food Aid—Food aid is an important factor in the supply/demand situation of some commodities, particularly wheat. The developing countries, which a little more than a generation ago were net exporters of food, have become increasingly dependent on food imports from the developed countries, and last year imported some 25 million tons of food grains, two-thirds on concessional terms. There is widespread recognition that the basic solution to the continuing problem of hunger and malnutrition must be found within the developing regions themselves, and that

future aid programs should incorporate conditions which would encourage the developing countries to increase their own agricultural productivity.

Early in 1966 the multilateral World Food Program was placed on a continuing basis for as long as multilateral food aid is feasible and desirable with reviews of the Program to take place at regular intervals. Canada pledged $27.5 million (in U.S. funds) of commodities and cash to the expanded WFP for the three years 1966-68 (a four-fold increase over our previous contribution). Canada also responded to the emergency situation in India with a greatly increased supply of food aid providing that country during the calendar year 1966 with about one million tons of food, principally in wheat and flour. Total commitments under our food aid program for the fiscal year 1966-67 amount to $75 million, compared with expenditures of $34.5 million in the previous fiscal year.

CANADIAN FARM INCOME SITUATION AND OUTLOOK

In 1966, farm cash receipts are expected to reach the $4 billion mark for the first time. This compares with the previous high of $3.8 billion in 1965. Of all the commodities contributing to the gain in total cash receipts, wheat is the most important. Large supplies available from above-average crops in recent years, together with strong export demand, have pushed farmers' marketings to record or near-record levels. Offsetting this gain to some extent were smaller total Canadian Wheat Board payments in 1966 than in 1965. This decline was due entirely to smaller total final payments on the 1964 wheat crop arising out of a reduction in both the per bushel payments and the marketings on which the payments were made. Substantial increases in marketings are also reflected in total returns from the sale of oil seeds, particularly flaxseed and rapeseed. Rhodesia's difficulty in selling its tobacco on world markets stimulated prices during the spring selling season and this, together with a resultant sharp increase in Canadian production, led to a substantial gain in returns to tobacco growers in 1966.

Although total marketings of cattle in 1966 are not expected to differ greatly from those of 1965, so far in 1966 average prices have been above year-ago levels and some further strengthening is expected towards the end of the year. During the early months of 1966 hog marketings were running at levels below those for the same period a year earlier, but this was more than offset by higher prices which reached a record level in February and have been declining since. Marketings were expected to increase this fall and some further easing of prices is anticipated but, for the year as a whole, total returns to producers are expected to be close to those for 1965.

Total production of milk was fractionally lower in 1966 than in 1965, but prices were higher. Added to this were federal subsidy payments.

Despite the new records set by poultry meat producers, prices remained firm and total returns reached new high levels. Fewer eggs were produced in 1966 than in 1965 but this was more than offset by higher prices.

Fruit growers realized an increase in total returns during 1966, despite the decline in the production of apples and grapes. Higher production was obtained from other fruit crops and prices were higher. Lower total cash receipts from the sale of potatoes reflect for the most part a lowering of average prices during 1966.

Farm Expenditures—Farm operating expenses and depreciation charges continued to move upward in 1966. Substantially higher rental payments resulted from the record crop in Western Canada and its consequent effect upon share-rental payments in that area. Larger quantities of manufactured livestock and poultry feeds were purchased by farmers at higher prices. The use of chemical fertilizers has increased sharply in recent years and it is estimated this trend in consumption continued during 1966. Prices of petroleum products were up slightly and consumption increased. Farmers' outlays for farm machinery and parts were also higher in 1966 than a year earlier.

Costs for hired farm help continued to rise as increases in farm wage rates more than offset some decline in numbers hired. Wages of paid farm male workers increased slightly in all provinces over those paid in 1965, averaging $1.23 an hour, without board, in the first eight months of 1966. Employment of all persons on farms (including operators) averaged 549,000 for the January to August period of 1966, a decline of 60,000 from the number employed during the same period in 1965. This decline is a continuation of the long-term trend of workers moving out of agriculture to employment in other industries. This year, however, the high demand for workers in other industries has resulted in a sharp acceleration of the decline in agriculture, the decrease averaging nearly 10 per cent from the numbers employed on farms

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during January to August 1965. As a result of this movement, those employed on farms declined to 7.7 per cent of the nation's labor force from about nine per cent a year earlier and 11 per cent five years ago. Regionally, the decline in farm employment took place primarily in the three Prairie Provinces.

An analysis of the decline by category of worker, shows the largest drop among farm operators and unpaid family members with the number of paid workers changing to a lesser degree. Since 1953, the number of paid workers on farms has remained fairly constant at an annual average of about 100,000. With gradually dwindling numbers of farm operators and unpaid family workers, paid workers accounted for 18 per cent of the total employed from January to August 1966, compared with 13 per cent for the same months of 1953.

The prospects for paid farm labor are for some increased shortages, particularly in certain fruit and vegetable crop areas, where labor is increasingly being attracted by non-agricultural industries. The extension of unemployment insurance to farm workers in April 1967 may tend to alter this situation.

Farm Expenditures—Some Longer Run Trends—Real estate inputs, that is, interest on investment, building repairs, depreciation and property taxes, represent almost a quarter of the total production requirements of Canadian agriculture. Real estate has been a relatively constant proportion of total farm inputs over the years as contrasted with labor, machinery and fertilizer, comprising about a fifth of total inputs in the 1940's and rising to almost one quarter in the 1960's.

Farmland values were fairly stable for Canada as a whole in the years 1946 to 1960, showing a relatively uniform growth rate of 4.4 per cent a year. However, in the 1960's, farmland values commenced a sharp rise with the increase from 1964 to 1965, for example, averaging 12.5 per cent. Over the whole of the 20-year period, 1946-65, the average growth rate in Canadian farmland values has been 4.8 per cent a year. A comparison of the average values of farmland in Canada by provinces in the two 5-year periods, 1946-50 and 1961-65, indicates that land values have doubled in Ontario, Saskatchewan and Alberta. Land values have risen the least in the Maritime Provinces, about 45 to 50 per cent.

There are a number of important economic factors which cause farmland values to rise. In brief, they include general economic conditions, the demands for land for both farm expansion and non-agricultural purposes, availability of farm mortgage credit and farm incomes. In the 20-year postwar period, the rate of growth in average net farm incomes has been about 4.2 per cent a year—fractionally less than the rise in land values during the same period.

The sharp rise in recent years in farmland values may be expected to result in some alternatives being sought by farmers to more land purchases such as applying heavier rates of fertilizer. The rate of growth in fertilizer sales for consumption on Canadian farms has averaged 4.6 per cent a year in the 20-year period, 1946-65. However, in the 5-year period since 1960, the growth rate has been over 11 per cent a year. In 1946-50, fertilizer consumption on all farms totaled 695,000 tons a year. By 1964, Canadian farmers had doubled consumption to 1,454,000 tons. If we assume an average growth rate of 4.6 per cent a year from this level, total fertilizer consumption will reach almost two million tons by 1970. If the rate of growth shown in recent years, however, of about 11 per cent a year, should be maintained, total fertilizer consumption will double again in seven years, by 1971.

Machinery is another important input in the farm production process, representing somewhat more than a fifth of total inputs. Sales of new farm machinery and repair parts (at wholesale prices) have grown in dollar terms at an average rate of 3.8 per cent a year during the period 1946-65. Farm machinery sales have been closely correlated by years with total net farm income (realized net farm income). In the early part of the period being reviewed, machinery sales followed the upswing in total net farm income, with both reaching a peak in 1952. Both machinery sales and total net farm income then dropped off very sharply, with machinery sales reaching a low in 1954 while total net farm income hit bottom in 1955. Both have been rising generally since. In the first seven months of 1966 farm machinery sales were 12 per cent above those of the same period in 1965. In the immediate future, we can reasonably expect that machinery sales will continue to closely reflect changes in total net farm income. Also, machinery sales in themselves probably have been a factor contributing to rising land values, a result of the indirect economic pressure which larger and more efficient machines create for larger acreages or larger herds.

Net Income—The gain in total cash receipts is expected to more than offset the rise in operating expenses so that realized farm income from farming operations is estimated to be higher in 1966 than in 1965. As a result of the larger crops in the Prairie Provinces, substantial quantities of grain will be stored on farms at the end of 1966. When the value of this

inventory increase is added to realized net farm income, total net income may reach close to $2 billion as against $1.7 billion in 1965.

Farm Income Prospects for 1967—Total cash receipts from farming operations in 1967 are expected to be about equal to, or slightly higher than, for 1966. Farmers' deliveries of wheat are expected to continue at high levels as a result of the record crop harvested in 1966 and the bright prospects for exports during the coming year. Participation payments may exceed those received in 1966; the payments in 1967 will be based on the 1965 crop marketings which were above the level of marketings from the 1964 crop, the basis of the 1966 payments. Strong demand for tobacco may provide increased returns from this source during the coming year. Cattle marketings are expected to be below 1966 levels but prices will be very favorable. On the other hand, anticipated increases in marketings of hogs will likely be accompanied by lower prices. Production of milk is not likely to change much, but prices of dairy products are likely to be somewhat higher. Egg production will increase but the prospects of accompanying lower prices may temper plans for expansion. Poultry meat production will likely continue to increase but at a lower rate because production costs are rising and the price outlook is less favourable than in 1966. Farm operating expenses will continue to rise as they have in past years so that realized farm net income may be approximately equal to or even slightly lower than the level estimated for 1966.

TABLE 1.—SELECTED ECONOMIC INDICATORS, CANADA, AVERAGE 1954-58, 1959-63, ANNUAL 1964, 1965 AND 1966

	Population	Civilian Labor Force: Total	Civilian Labor Force: Unemployed as Percentage of Labor Force	Index of Industrial Production	Trade (monthly averages): Exports	Trade (monthly averages): Imports	General Wholesale Price Index	Consumer Price Index	G.N.P. at Market Prices	Personal Disposable Income per Capita
	thousands		Per Cent	1949=100	million dollars		1935-39=100	1949=100	million dollars	dollars
1954-58...	16,151	5,803	4.8	147.1	374.3	410.1	223.3	119.5	29,478	1,232
1959-63...	18,211	6,501	6.3	177.7	495.9	493.0	235.9	129.5	38,534	1,460
1964.....	19,237	6,933	4.7	235.3	692.0	624.0	245.4	135.4	47,403	1,649
1965.....	19,571	7,141	3.9	254.9	730.4	719.5	250.4	138.7	51,996	1,788
1966.....	19,919	7,516[a]	2.7[a]	271.4[b]	797.8[c]	799.5[c]	260.8[a]	145.1[a]	56,600[d]	1,885[d]

[a]September.
[b]July.
[c]January to June average.
[d]January to June, seasonally adjusted at annual rates.

TABLE 2.—SELECTED AGRICULTURAL ECONOMIC INDICATORS, CANADA, AVERAGE 1954-58, 1959-63, ANNUAL 1964, 1965 AND 1966

	Employment in Agriculture[a]: Total	Farm Operators	Unpaid	Paid	Index of Physical Volume of Agricultural Production: Canada	Maritimes	Central	Prairies	British Columbia	Value of Farm Capital
	thousands				1949=100					million dollars
1954-58...	786	519	163	104	124.4	103.8	120.1	130.3	114.1	10,679
1959-63...	667	426	133	108	140.9	105.3	139.0	144.2	141.5	13,274
1964.....	630	397	134	99	151.5	108.9	146.6	161.1	160.3	15,790
1965.....	594	363	126	105	166.3	108.6	151.4	184.2	160.5	17,282
1966.....	549[b]	337[b]	112[b]	100[b]	184.0[c]	—	—	—	—	—

[a]Annual averages of monthly surveys.
[b]January to August.
[c]Preliminary.

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TABLE 3.—EMPLOYMENT IN AGRICULTURE, INCLUDING SELF-EMPLOYED, AVERAGES OF MONTHLY SURVEYS, CANADA, 1961-1966

	Annual Averages					January to August	
	1961	1962	1963	1964	1965	1965	1966
	thousands						
Atlantic	55	44	34	38	34	32	32
Quebec	138	132	124	114	116	119	110
Ontario	162	158	172	160	151	155	144
Prairies	299	299	300	296	271	280	236
British Columbia	27	27	18	22	22	23	27
Canada	681	660	648	630	594	609	549
Employment in agriculture as per cent of all industries	11.2	10.6	10.2	9.5	8.7	8.9	7.7

TABLE 4.—NET INCOME OF FARM OPERATORS FROM FARMING OPERATIONS, CANADA[a], 1954-66

	Average 1954-58	Average 1959-63	1964	1965[b]	1966[c]
	million dollars				
1. Cash receipts	2,466	2,936	3,488	3,776	4,102
2. Income in kind	328	357	396	433	460
3. Supplementary payments	21	44	9	28	81
4. Realized gross income (1+2+3)	2,815	3,337	3,893	4,237	4,643
5. Operating and depreciation	1,701	2,136	2,485	2,641	2,881
6. Realized net income (4-5)	1,114	1,201	1,408	1,596	1,762
7. Value of inventory change	31	42	−95	64	233
8. Total gross income (4+7)	2,846	3,379	3,798	4,301	4,876
9. Total net income (8-5)	1,145	1,243	1,313	1,660	1,995

[a]Excluding Newfoundland—totals may not agree because of rounding.
[b]Preliminary.
[c]Estimated.

TABLE 5.—DISTRIBUTION OF FARM PRODUCTION INPUTS BY MAJOR CATEGORIES, CANADIAN AGRICULTURE, 1935 TO 1965 (1949 PRICE WEIGHTS)

Period or Year	Labor[a]	Real Estate[b]	Capital				
			Machinery and Equipment[c]	Purchased Feed and Seed	Fertilizer and Limestone	Miscellaneous[d]	Total Capital
	per cent of total inputs						
1935-39	60	23	9	4	[e]	4	17
1940-45	54	21	11	8	1	5	25
1946-50	49	19	15	10	1	6	32
1951-55	42	21	20	9	1	7	37
1956-60	35	22	21	13	2	7	43
1961	33	23	21	13	2	8	44
1962	32	24	21	13	2	8	44
1963	31	23	22	13	2	9	46
1964	29	23	22	14	3	9	48
1965	27	25	22	15	3	8	48
1961-65	30	24	21	14	3	8	46

[a]Total farm labor force.
[b]Includes interest on investment, depreciation and repairs on buildings, and property taxes.
[c]Includes fuel and other purchased items associated with machinery operation, as well as depreciation and interest on investment.
[d]Electric power, interest on purchased livestock and livestock investment, pesticides and other purchased inputs.
[e]0.5 per cent.
Source: Based upon data provided by D.B.S. All data used in making these calculations were extensively revised for the period 1951-64.

GRAINS, FEEDS AND OILSEEDS

WHEAT

World Export Situation—During the 1965-66 season, world wheat and flour trade reached a record level just short of 60 million metric tons (2,200 million bushels) due to the large-scale imports by the U.S.S.R., the continued purchases by Mainland China and the very large food aid needs of the developing countries, especially India. This is the third successive year in which the level of world trade has been over 50 million tons, due mainly to the recent trends of large purchases by the Communist Bloc countries and increasing volume of aid shipments to developing countries.

Canadian Situation—Wheat supplies in Canada during the 1965-66 crop year were 1,162 million bushels, 10 per cent higher than the previous year's 1,060 million bushels. Production in 1965 rose by 8 per cent to 649 million bushels. Exports, at 583 million bushels, reached the second highest level on record and with slightly higher domestic disappearance at 157 million bushels, stocks at August 1, 1966 fell to 422 million bushels, the lowest level for 4 years.

Exports of wheat and flour showed a considerable change in the distribution pattern in 1965-66. Together, the U.S.S.R. and Mainland China purchased 301 million bushels which accounted for over half of our wheat exports during the crop year. Total exports to Western Europe were above the previous year due to larger sales to Switzerland and Italy, but the downward trend in sales to most Western European countries, including the E.E.C., continued. There was some decline in other markets including South America and the Philippines.

Prices rose steadily throughout the year in response to the continuing strong world demand, including aid shipments, the short supplies in Australia and Argentina and the large scale purchases by the U.S.S.R. and Mainland China. By early October, 1966, the Canadian Wheat Board asking price of $2.11 per bushel, basis No. 1 Northern at Fort William-Port Arthur, was only 7 cents below the International Wheat Agreement maximum while the Vancouver quotation was within 3 cents of the maximum.

Domestic disappearance of wheat in Canada amounted to 157 million bushels, an increase of 10 million over the previous year, due almost entirely to more wheat being used for feed. Shipments under the Feed Freight Assistance, which had decreased in 1964-65, rose to a more normal level as larger supplies of lower grades from the 1965 crop became available. All provinces shared in this increase, but the Maritimes showed the largest proportionate increase and Ontario and British Columbia the smallest.

The 1966 wheat crop at 844 million bushels is the largest ever harvested in Canada and surpassed by 121 million the previous record set in 1963. The 1966 harvest reflected the combined effect of record levels for seeded acreage and average yield per acre. The 30.3 million acres seeded to this crop in 1966 surpassed the previous high of 29.7 million in 1963, while the average yield, at 27.9 bushels per acre, exceeded by a wide margin both the 1965 figure of 22.9 bushels and the 10-year average of 20.2 and is nearly a bushel per acre above the previous record of 26.8 bushels harvested in 1952. Excellent weather during the growing season and at harvesting time resulted in an abundance of high grade wheat. Protein content of this year's crop, at 13.5 per cent, is about average.

World Market Situation—The world situation has been notable for the lower supplies available in the United States and the reluctance of Australia and Argentina to offer wheat, due to their relatively poor harvests in 1965-66. On the other hand, supplies of wheat in Canada, at 1,263 million bushels, are the largest on record.

World Production 1966—The 1966 world wheat crop (excluding Mainland China) seems likely to be near the record of 250 million metric tons reached two years ago and 12 million more than the 1965 crop. While production declines have occurred in the United States, Western Europe, North Africa and the Middle East, these will be more than offset by substantial increases in Canada, U.S.S.R., and the anticipated larger harvest in the southern hemisphere, particularly in Australia.

World Outlook—With some decrease in wheat production in Western Europe, North Africa and the Middle East, commercial sales in 1966-67 are expected to increase. Indications are that advance sales by exporters are well ahead of previous years. In part, these transactions may reflect a desire on the part of importers to secure supplies early because of lower stocks in the U.S.A. and the tight transport situation that could develop in Canada. In addition there appears to be a generally active world demand.

The trends in wheat imports were set out in detail in the 1965 Outlook and appear to be unchanged. Imports into the developed countries have been relatively steady. For the developing countries, the trend has been for larger imports and, while the huge shipments to India in 1965-66 may be an exception, the food aid needs of these countries will continue to increase for some years. For the next few years the demand from Mainland China, and to a lesser extent

the U.S.S.R. and some Eastern European countries seems likely to continue. Total world trade in wheat and flour, while remaining above 50 million tons, is not likely to reach record levels in 1966-67.

Canadian Outlook, 1966-67—While competition in commerical markets will be very strong, a slight increase in wheat exports to traditional markets is expected. Shipments to Western Europe will total up to 150 million bushels while exports to Japan are expected to exceed the 50 million bushels of last year. Sales to the U.S.S.R. are presently set at 112 million bushels. Shipments to Mainland China will be at least 80 million bushels and to Eastern Europe about 33 million. Aid shipments are anticipated to reach 30 million and clearances to all other areas should approach the 75 million bushel level. On this basis Canada's wheat exports should total at least 530 million bushels in 1966-67, compared with 583 million the previous crop year.

With exports around 530 million bushels and use of wheat in Canada estimated at 155 million bushels, total disappearance should reach 685 million bushels. On the basis of these forecasts, carry-over stocks by July, 1967, will have increased to 580 million bushels, but this is considered a reasonable level to support the expanded volume of trade.

U.S. Wheat Outlook—With wheat supplies for 1966-67 at 1,800 million bushels or 17 per cent lower than the previous year and total disappearance forecast at around 1,400 million bushels (660 domestic and 740 export), carry-over stocks on July 1, 1967 are expected to be no higher than 400 million bushels. This would be the lowest U.S. wheat carry-over since 1952 and, when viewed against the background of domestic and export requirements, is relatively small. Thus, the United States Government is encouraging an increase in acreage sown to wheat for harvesting in 1967 by increasing the 1967 national acreage allotment for wheat by 30 per cent to 68.7 million acres although actual seedings may not reach this total. Nevertheless, the U.S.D.A. estimates that as a result of this larger acreage allotment, wheat production in the U.S.A. in 1967 is likely to reach 1.6 billion bushels, about 300 million more than the 1966 output. This would ensure that the U.S.A. would have ample supplies available for export in 1967-68.

Prospects for Canada to 1970—In the developed countries, per capita consumption of wheat products is declining and this has been barely offset by population increases. The rising trend of domestic production in many of these countries is leading to a decline in wheat imports. It is unlikely, therefore, that Canada's average exports to these areas will exceed the recent annual average of 220 million bushels, although the actual quantity may vary from year to year.

To the developing countries, Canada has increased her exports to about 75 million bushels. The larger food aid program will account for close to 35 million bushels.

Prospects for exports to Communist Bloc countries look excellent due to the three-year agreement with Mainland China, the 1966 three-year agreement with the U.S.S.R. and a number of arrangements with Eastern European countries. Exports to China are now assured for the next three years at a minimum of 55 million bushels a year and a possible 93 million. It appears that the latter level is likely to be attained. Eastern European countries having agreements with Canada will probably account for about 35 million bushels in 1966-67, but competition for this market is strong. In June, 1966, the U.S.S.R. entered into an agreement to purchase from Canada 336 million bushels for shipment over the three years commencing August 1, 1966, with a specific contract for 112 million bushels to be shipped in the first twelve months.

Summing up the prospects to 1970 for Canadian wheat and flour exports, the developed countries offer an increasingly competitive market for as much as 220 million bushels; the developing countries offer us 70 million bushels, including the larger food aid commitments; Mainland China seems likely to take 90 million bushels; the Eastern European countries may account for 35 million bushels, and the U.S.S.R. up to 112 million during each of the next three years. Thus, an annual volume of between 475 and 550 million bushels is likely until 1970. This possible annual volume of exports will require a continuing high level of production, but with recent average yields, can probably be achieved on 30 million acres.

DURUM

Acreage seeded to durum wheat this season (1.1 million acres) was 35 per cent higher than in 1965. The yield averaged a record 26.7 bushels per acre, to produce a crop of 30.3 million bushels. While prices of durum wheat remained at the same level as those for bread wheat during 1965-66, the more usual premiums for durums have returned in the last few months, reflecting smaller crops in some other countries. Supplies in the United States and Canada are adequate to meet anticipated world import demands which in recent years have averaged 70 million bushels.

FLOUR

Flour prices rose during 1966 in line with the increased price of wheat. Flour production was higher in the crop year 1965-66 at 43.6 million hundred-

weight. This represents 85 per cent of Canada's milling capacity, and compares with the previous year's figure of 39.1 million hundredweight, representing 77 per cent of capacity. The increase is almost entirely due to exports under the U.S.S.R. contract. Domestic consumption has remained reasonably steady at 27 million hundredweight, and exports to countries other than those in the Communist Bloc have fallen. The total of these other exports in 1965-66 was approximately 10 million hundredweight (including 0.6 million hundredweight aid to India), representing a steady decline from the 1962 level of 12 million hundredweight, and a continuation of the long-term trend.

Main reasons for this decline are new flour mill construction in certain developing countries which have been traditional markets for Canadian wheat flour and strong competition from other suppliers whose subsidized flour exports more than offset the quality advantage enjoyed by Canadian flour.

There is some assurance of continued flour exports to Communist Bloc countries, at least through to 1969. Larger quantities of flour may be involved in aid programs. However, it can be expected that the remaining export volume will continue to decline as the trend towards new mill construction in developing countries continues. A small increase can be foreseen in domestic business, assuming that the per capita consumption remains generally stable. The overall outlook, therefore, would be for a gradual decrease in flour production in the long term.

COARSE GRAINS

World Trade and Canadian Prospects—World trade in coarse grains continues to increase steadily each year but, unlike wheat, the increase is confined to the developed countries, particularly Western Europe, North America and Japan. As the demand for livestock products continues to rise, prospects for increased world trade in coarse grains are good. This is so even though feed grain production within importing countries also continues to increase.

Although substantial growth has occurred in world trade in coarse grains, Canada has not yet participated in this increase. A major reason has been the rapid acceptance and relative cheapness of corn and sorghum for feeding purposes. As a result of the continued high demand, particularly for export in 1965-66, the United States Government has announced that it will encourage the production of corn and sorghum in 1967 in a number of ways, including a 50 per cent reduction in the land diverted from corn and grain sorghum and increases in the support prices for these crops. It is doubtful if Canada can increase feed grain exports in this expanding world market unless it is possible to produce high energy feed grains at low cost in competition with corn and sorghum produced in the United States and Argentina and barley in Western Europe.

Canadian Feed Grains—Canadian feed grain supplies in 1966-67, including feed wheat, are placed at a record 24.9 million short tons, some 4 per cent above the previous peak of 24.0 million in 1963-64. This year's total also represents an increase of 4 per cent over last year's 23.9 million tons and 15 per cent above the five-year average of 21.6 million. Grain consuming animal units increased slightly from 16.2 million at June 1, 1965 to 16.3 million in 1966. However, the larger feed grain supply more than offset the increase in animal units, and as a result, total supplies per animal unit are estimated at 1.53 tons, 3 per cent above the 1965-66 figure of 1.48 tons and 12 per cent more than the 5-year average of 1.37 tons.

Concentrates (including grains) fed during the 1965-66 season totaled 16.2 million tons and represented an increase of 8 per cent over the previous year's total of 15.0 million, and 14 per cent more than the 5-year average of 14.2 million. Reflecting favorable livestock-feed price ratios and also abundant feed grain supplies, concentrates consumed per animal unit totaled 1.00 tons as against the previous year's total of 0.91 tons and the 5-year average of 0.90 tons. During the 1966-67 feeding season it is anticipated that concentrates fed in Canada will total about the same as the previous year's figure of 16.2 million. Rates of feeding are expected to be maintained at a relatively high level in view of the generally good expected average returns from most animal products, as well as record feed grain supplies. Carryover stocks at the end of the crop year are expected to total some 6 million tons about 28 per cent higher than the previous year's total of 4.7 million largely due to the substantial increase in the 1966 barley crop as well as another record outturn of grain corn.

OATS

Situation

Total domestic supplies of oats in 1965-66 at 545 million bushels, were 2 per cent higher than the 537 million of the previous season. Primary deliveries of oats from farms in the Prairie Provinces amounted to 52 million bushels in 1965-66, 26 per cent above the previous year's level of 41 million but 4 per cent less than the ten-year average of 54 million bushels.

Shipments of oats under the feed freight assistance program, according to preliminary data, amounted to 34.2 million bushels, 16 per cent more than the 1964-65 comparable total of 29.5 million. Increases were noted in all provinces except British Columbia.

Total domestic disappearance of oats increased moderately to 400 million bushels in 1965-66 with virtually all of the increase due to heavier use of oats for feeding purposes. Exports of Canadian oats and oat products during 1965-66 totaled 15.9 million bushels compared with the previous year's shipments of 15.6 million but above the ten-year average of 13.1 million bushels. Major export markets for Canadian oats in 1965-66 were in millions of bushels: Federal Republic of Germany, 6.8; Netherlands, 4.9; and United States, 1.1.

With total disappearance almost equal to the 1965 harvest, carryover stocks at July 31, 1966 amounted to 128 million bushels compared with the 1965 total of 130 million.

The Canadian Wheat Board asking price for oats, basis No. 1 feed in store Fort William-Port Arthur, showed a 12 per cent increase during the marketing year, opening at a quotation of 80½ cents per bushel, and closing at a level of 90½ cents.

The acreage seeded to oats for grain declined moderately in 1966 and, with average yields falling slightly below last year's record level, the total outturn of the current crop is placed at some 389 million bushels, 6 per cent less than the volume harvested in 1965. When this crop is added to the 128 million bushels carried forward from the previous year, total supplies of oats for the 1966-67 crop year amount to 517 million bushels, 5 per cent less than in 1965-66 but little changed from the recent 5-year average of 511 million bushels.

Outlook

The Canadian Wheat Board asking quotation for oats, basis No. 1 feed in store Fort William-Port Arthur, remained relatively constant near 90 cents per bushel to the middle of October. Prices are expected to remain generally stable during the current crop year.

Domestic use of oats is expected to decline in 1966-67, probably to about the 380 million bushel level because of less plentiful supplies available for feeding purposes and because of higher prices relative to barley. Anticipated exports, at 15 million bushels, will be relatively unchanged from the previous year. Based on these forecasts, total disappearance will exceed current production by a small amount and some decline in year-end stocks will occur. Assuming recent average yields, a moderate increase in acreage will be required in 1967 to maintain supplies at about the level of disappearance in recent years.

BARLEY

Situation

Supplies of barley in 1965-66, at 304 million bushels, represented an increase of 6 per cent over the 285 million bushel level of the previous season, with a relatively sharp increase in production more than offsetting a decline in carryover stocks. With supplies of barley approaching average levels in 1965-66, domestic disappearance of this grain reached the highest level since 1943-44, primarily due to increased use of barley for feeding purposes. Exports of barley, including malt, recorded a moderate increase from 37 million bushels in 1964-65 to 38 million in 1965-66. With total disappearance amounting to some 205 million bushels, or about 10 million less than the 1965 crop, year-end stocks increased from 89 million bushels at July 31, 1965 to 98 million in 1966.

Deliveries of barley to country elevators increased sharply from 75 million bushels in 1964-65 to 93 million in 1965-66. With primary marketings of Canadian barley exceeding the volume moving to export and domestic markets, supplies in commercial positions at the end of the crop year increased from 53 million in 1965 to 65 million in 1966.

Shipments of barley under the feed freight assistance program, according to preliminary data, amounted to 27 million bushels, up 5 per cent from the previous year's comparable total of 25.6 million. This increase reflected larger shipments to all provinces except Ontario and New Brunswick.

Barley exports, at 33.7 million bushels, represented an increase of 3 per cent over the 1964-65 level of 32.7 million. Major importers were recorded as follows in millions of bushels: Italy, 11.9; Japan, 6.1; Britain, 4.7; and the United States, 4.7. In addition exports of Canadian malt in terms of barley amounted to 4.3 million bushels, with United States and Britain being the major customers.

During 1965-66 the Canadian Wheat Board asking quotation for barley, basis No. 1 Feed, in store Fort William-Port Arthur displayed reasonable stability. After opening the year at $1.24 per bushel this quotation gradually rose to $1.35 per bushel at February 16, then spent the remainder of the year between levels of $1.25¼ and $1.33¼ per bushel.

Reflecting a combined effect of a 19 per cent increase in seeded acreage and a 14 per cent rise in the average yield per acre, production of barley in 1966 is placed at 293 million bushels, the highest level since 1952 and 37 per cent above the 1965 total of 215 million. Production in the Prairie Provinces, where the bulk of this crop is produced, is estimated

at 279 million bushels as against 202 million in 1965. When this year's crop is added to the opening stocks of 98 million bushels, total supplies for the current crop year will be some 391 million bushels, 29 per cent more than the 1965-66 total of 304 million and the highest level of barley supplies on record.

Outlook

The Canadian Wheat Board asking quotation for No. 1 Feed in store Fort William-Port Arthur has so far this crop year ranged between levels of $1.30 and $1.35 per bushel. Barley prices are expected to remain steady subject to competition from Canadian and American corn.

Domestic disappearance could reach 190 million bushels and with exports expected to amount to about 35 million a total disappearance of some 225 million would leave a carryover at July 31, 1967 of about 166 million bushels which would be an all-time high.

CORN FOR GRAIN

Production of grain corn in 1965 amounted to a record 59.6 million bushels, 13 per cent more than the 53 million harvested the previous season. Added to the 1965 crop were some 6.3 million bushels carried over in commercial positions and imports amounting to 23.9 million. Domestic disappearance increased to a record 84 million bushels in 1965-66 and represented a sharp increase over the previous year's comparable figure of 68 million and the previous record of 69 million in 1962-63.

The 63.0 million bushels of grain corn harvested in 1966 represented a 6 per cent increase over the previous year's record of 60 million and marked the fourth consecutive year of record production. In addition to the current crop, imports from the United States could total about 25 million bushels in 1966-67.

Corn prices in 1966 are expected to remain firm reflecting the United States situation. In that country total feed grain year-end stocks are expected to register another substantial decline because of increased use.

FORAGE CROPS AND FEED SUPPLEMENTS

A record Canadian production of tame hay in 1966, estimated at 25.7 million tons, is about 22 per cent greater than last year's crop of 21.1 million tons and 12 per cent above the previous peak of 23.0 million tons in 1963. The 1966 crop of fodder corn is placed at 5.6 million tons, 9 per cent greater than the 1965 total. Hay production in 1966 was greater than a year ago in all provinces except Saskatchewan and Alberta and supplies, with the exception of local areas, should be adequate this feeding season. Production of fodder corn increased in Quebec and Ontario, but there was a minor decline in Manitoba. Fall pastures are reported to be generally satisfactory in most areas and, as a result, supplementary fall feeding from winter supplies should not be very extensive this season.

Reflecting continued activity in the milling industry and particularly due to the latest Russian flour contract, production of millfeeds in 1966-67 should be well maintained and supplies of millfeeds plentiful. In keeping with the trend of the past five years, production of soybean meal, the major single component of all high protein supplements used by Canadian feeders will probably record another moderate increase in 1966-67. Packing-house by-products should show relatively little change from last year's level as the increase in hog slaughterings should be offset by the decrease in cattle slaughterings.

FLAXSEED

Situation

Canadian production of flaxseed this year is estimated at 23.6 million bushels. This represents a 19 per cent reduction from the 29.3 million bushels produced last year. Acreage was down from 2.3 million to 2.1 million and yield was down slightly this year as well, dropping from 12.6 bushels to about 11.4 bushels an acre.

Flaxseed exports in 1965-66 were 18.9 million bushels, up from 14.3 million bushels the previous year. Flaxseed exports continued to move principally to markets in Western Europe and Japan. The equivalent of an additional 1.3 million bushels was exported as linseed oil and meal.

The average price in the 1965-66 crop year for No. 1 C.W. Flaxseed, basis Fort William, was $2.98 a bushel, down from $3.20 in the previous year. The average price of flaxseed on the same basis for the week ended September 24, 1966 was $2.97 a bushel, compared with an average price of $3.22 for the corresponding week in September, 1965.

Crushings of flaxseed for the crop year 1965-66 amounted to 2.6 million bushels, down from the 3 million bushels for the previous 12-month period.

Argentine production in 1966 was down from over 32 million bushels in the previous crop year to just under 30 million bushels. United States production is estimated at 23.9 million bushels, down substantially from the 35 million bushels of the previous year.

Canadian flaxseed stocks of almost 11 million bushels, together with the current crop of 23.6 million bushels, make a total supply for disposal of about 34.4 million bushels. This is about 2 million bushels or 6 per cent less than last year, when stocks were lower but production was higher. The United States quantity for disposal may be down by about 10 million bushels from last year.

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Outlook

The downward trend in the demand for flaxseed is expected to continue indefinitely in the face of competition by synthetics for the paint and surface coating market. Canada's share of the world market for flaxseed can be expected to be maintained or increased only at relatively lower prices. World and Canadian stocks of flaxseed are still such as to easily equal the demand. If present production rates are not exceeded, prices can be expected to hold close to or range only slightly below last year's level in the years ahead.

RAPESEED

Situation

Acreage planted to rapeseed in 1966-67 was slightly down at 1,388,000 acres compared with 1,435,000 in the previous year, but it has increased about fourfold over the past 12 years. In 1966-67, the acreage in Manitoba and Saskatchewan increased while in Alberta it declined. The forecast yield of 18.4 bushels per acre indicates a crop of some 25.5 million bushels, up 13 per cent from last year.

Exports of rapeseed for the 1965-66 crop year amounted to 13.6 million bushels, almost 50 per cent over the previous year's exports of 9.3 million and nearly three times those in 1963-64. Japan took just over half our exports and western Europe about 40 per cent. Canada continues to be the world's largest exporter of rapeseed by a large margin.

Domestic crushings of rapeseed have more than doubled over the last three years.

Prices of No. 1 Canada rapeseed, basis in store Vancouver, averaged lower at about $2.66 a bushel compared with $2.87 a bushel in 1964-65. Prices of rapeseed on the same basis for the week ended September 24, 1966, however, averaged $2.68 a bushel compared with $2.36 a bushel for the same week in September, 1965.

World production of rapeseed in 1965-66 is estimated to have increased by nearly 20 million bushels to approximately 204 million bushels. In addition to Canada, France, Sweden, Denmark and Poland have been exporting in recent years.

Stocks in Canada in commercial positions at July 31, 1966 amounted to 3.4 million bushels compared with stocks of 1.5 million the previous year. Quantities available for distribution in 1966-67 should amount to some 28.9 million bushels compared with a little over 24 million bushels last year.

Outlook

Rapeseed acreage and production is expected to continue the general upward trend of recent years and soon to become Canada's most important oilseed crop. The Japanese market appears likely to take increasing quantities of Canadian rapeseed. The market for rapeseed meal, both at home and abroad, should also improve as the feeding value of rapeseed meal becomes better known. The results of breeding of more suitable varieties for specific oil and meal quality are beginning to be seen in commercial production.

Disease is becoming a significant factor in production and serious attention will have to be given to control measures as acreage increases. The price and export prospects for the near future are more promising than a year ago and indicate a long-term expanding market at favorable prices.

SOYBEANS

Situation

The soybean crop is currently estimated at 8.7 million bushels, compared with just over 8 million bushels last year. Acreage was up slightly at 268,000 acres.

Imports last year at about 17.1 million bushels were up 4 per cent from the 16.5 million bushels of the previous year. Exports of soybeans, at a little over 2 million bushels, were down by one-third from the quantity exported in the previous year. However, exports of soybean meal and oil were up in the calendar year 1965 over those of the previous year, representing about 10 million additional bushels. Canadian exports go largely to Britain. Canada, in 1965-66, crushed some 20.5 million bushels, producing 982 million pounds of meal and 205 million pounds of oil. In 1964-65, crushings at 19.5 million bushels were slightly lower from those of the previous year so that meal production was about 933 million pounds and oil production some 201 million pounds.

Soybean prices for No. 2 or better for the crop year 1965-66 averaged ten cents lower than last year's at about $3.00 a bushel, f.o.b. Chatham. Prices for the week ended September 23, 1966 averaged $3.14 a bushel. The price for soybean meal (44%) at the end of September, 1966 was $102.50 a ton, up from last year's average price of $89.00 a ton for the corresponding period.

One of the outstanding features of the soybean industry is the increase in production which has occurred in the United States during the past two years. The 1966 September forecast for the United States indicates a new record crop of 926 million bushels, compared with the previous record crop in 1965 of 843 million bushels.

Outlook

In spite of last year's heavy United States crop, only about 30 million bushels were carried over into the current crop year. The demand for meal, particularly, is expected to continue to rise in the United

States and abroad, although this may not be true of oil. One factor of significance in indicating maintenance of a high price of soybeans is the fact that the United States this year increased its support level from $2.25 to $2.50 a bushel.

The Canadian soybean industry continues to be closely related to that in the United States. Some increase in acreage is expected over the coming years and seasonal average prices should continue at the same or slightly higher than current levels. Soybeans are expected to continue to occupy a dominant role in meeting the expanding world needs for vegetable oils and protein.

SUNFLOWER SEED

Situation

The 1966-67 sunflower seed acreage in Western Canada was down by 41 per cent, at 40,100 acres, compared with the 68,000 acres of the previous year. Production at 29.6 million pounds, however, was slightly above last year's crop of 29.2 million pounds. Yields, averaging 737 pounds an acre, were better than last year's owing to the longer frost-free season. Ontario planted about 2,000 acres in 1966 and this acreage is expected to produce about 2.4 million pounds, most of which will go for birdseed. About one-third of the Western crop is used as birdseed or as a confection, while the balance is crushed in Canada for oil and meal.

Outlook

Sunflowers are expected to remain a relatively minor crop although the market prospects are excellent. Plant breeding work on more adaptable and valuable varieties and crop management research are expected to yield gradual improvements year by year. Sunflowers are not regarded as having a high potential for a major Canadian crop. In areas where the crop can be grown to produce consistently good yields or for soil management benefits, it should continue to be profitable.

TABLE 1.—WHEAT ACREAGE, CANADA AND PROVINCES, SELECTED PERIODS, 1954-66

Province	Average 1954–58	Average 1959–63	1964	1965	1966
	thousand acres				
Canada	22,938	25,748	29,686	28,282	30,298
Prince Edward Island	4	5	4	4	4
Nova Scotia	1	1	1	1	2
New Brunswick	3	2	3	6	8
Quebec	15	11	11	12	11
Ontario	638	498	472	376	381
Manitoba	2,219	2,916	3,385	3,240	3,480
Saskatchewan	14,654	16,596	19,200	18,500	19,700
Alberta	5,347	5,635	6,495	6,050	6,600
British Columbia	59	83	115	93	113

TABLE 2.—SUPPLY AND PRICE SITUATION, CANADIAN WHEAT, SELECTED PERIODS, 1954-66 (CROP YEAR, AUGUST 1 TO JULY 31)

Item	Average 1954–55–1958–59	Average 1959–60–1963–64	1964–65 (Revised)	1965–66 (Preliminary)	1966–67 (Preliminary)
	million bushels				
Stocks at August 1	623.4	534.7	459.4	513.0	421.9
Production	443.0	507.2	600.4	648.9	844.4[a]
Imports[b]	0.1	[c]	[c]	[c]	
Total supply	1,066.5	1,041.9	1,059.9	1,161.9	1,266.4[d]
Exports[b]	288.7	382.9	399.6	582.8	
Stocks at July 31	617.3	509.0	513.0	421.9	
Domestic disappearance	160.5	150.0	147.3	157.2	
	dollars per bushel				
Farm price[e]	1.29	1.60	1.59		

[a]Based on yields indicated at October 15.
[b]Includes wheat flour in terms of wheat.
[c]Less than 50,000 bushels.
[d]Excluding imports.
[e]Average price received by farmers for all grades and varieties.

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TABLE 3.—OATS ACREAGE, CANADA AND PROVINCES, SELECTED PERIODS, 1954-66

Province	Average 1954–58	Average 1959–63	1964	1965	1966
			thousand acres		
Canada	9,909	9,466	8,191	8,656	8,216
Prince Edward Island	93	94	92	89	83
Nova Scotia	45	36	34	31	28
New Brunswick	130	103	82	86	74
Quebec	1,289	1,266	1,184	1,165	1,098
Ontario	1,591	1,780	1,663	1,580	1,525
Manitoba	1,575	1,527	1,635	1,525	1,530
Saskatchewan	2,732	2,164	1,469	1,920	1,790
Alberta	2,367	2,410	1,950	2,200	2,020
British Columbia	88	86	82	60	68

TABLE 4.—SUPPLY AND PRICE SITUATION, CANADIAN OATS, SELECTED PERIODS, 1954-66 (CROP YEAR, AUGUST 1 TO JULY 31)

Item	Average 1954–55–1958–59	Average 1959–60–1963–64	1964–65 (Revised)	1965–66 (Preliminary)	1966–67 (Preliminary)
			million bushels		
Stocks at August 1	139.4	115.1	179.4	130.1	128.1
Production	367.2	394.7	357.2	415.0	388.7[a]
Imports[b]	[c]	1.1	[c]	[c]	
Total supply	506.6	510.8	536.6	545.1	516.8[d]
Exports[b]	15.8	10.5	15.6	15.9	
Stocks at July 31	140.2	124.9	130.1	128.1	
Domestic disappearance	350.6	375.4	390.9	401.0	
			dollars per bushel		
Farm price[e]	0.63	0.68	0.69		

[a]Based on yields indicated at October 15.
[b]Includes oatmeal and rolled oats in terms of oats.
[c]Less than 50,000 bushels.
[d]Excluding imports.
[e]Average price received by farmers for all grades and varieties.

TABLE 5.—BARLEY ACREAGE, CANADA AND PROVINCES, SELECTED PERIODS, 1954-66

Province	Average 1954–58	Average 1959–63	1964	1965	1966
			thousand acres		
Canada	8,962	6,344	5,455	6,038	7,213
Prince Edward Island	2	6	11	12	13
Nova Scotia	2	1	2	3	4
New Brunswick	6	3	3	3	5
Quebec	36	21	14	15	13
Ontario	110	85	113	140	195
Manitoba	1,826	814	497	601	830
Saskatchewan	3,355	2,162	1,400	1,750	2,200
Alberta	3,559	3,177	3,320	3,390	3,840
British Columbia	68	75	95	124	113

TABLE 6.—SUPPLY AND PRICE SITUATION, CANADIAN BARLEY, SELECTED PERIODS, 1954-66
(CROP YEAR, AUGUST 1 TO JULY 31)

Item	Average 1954–55–1958–59	Average 1959–60–1963–64	1964–65 (Revised)	1965–66 (Preliminary)	1966–67 (Preliminary)
			million bushels		
Stocks at August 1	121.9	103.8	118.3	88.8	97.9
Production	229.8	181.7	166.8	214.6	292.9[a]
Imports[b]	[c]	[c]	[c]	0.1	
Total supply	351.7	285.5	285.1	303.5	390.8[d]
Exports[b]	76.4	43.2	37.0	38.0	
Stocks at July 31	118.9	101.3	88.8	97.9	
Domestic disappearance	156.4	141.0	159.3	167.5	
			dollars per bushel		
Farm price[e]	0.82	0.89	1.00		

[a]Based on yields indicated at October 15.
[b] Includes malt and pot and pearl barley in terms of barley.
[c]Less than 50,000 bushels.
[d]Excluding imports.
[e]Average price received by farmers for all grades and varieties.

TABLE 7.—RYE ACREAGE, CANADA AND PROVINCES, SELECTED PERIODS, 1954-66

Province	Average 1954–58	Average 1959–63	1964	1965	1966
			thousand acres		
Canada	628	586	680	746	635
Quebec	7	4	2	3	3
Ontario	80	65	56	50	47
Manitoba	79	94	149	151	136
Saskatchewan	345	262	289	340	288
Alberta	114	159	182	200	159
British Columbia	2	2	2	2	2

TABLE 8.—SUPPLY AND PRICE SITUATION, CANADIAN RYE, SELECTED PERIODS, 1954-66
(CROP YEAR, AUGUST 1 TO JULY 31)

Item	Average 1954–55–1958–59	Average 1959–60–1963–64	1964–65 (Revised)	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand bushels		
Stocks at August 1	16,231	6,108	7,052	8,302	10,542
Production	10,237	10,014	12,220	16,695	15,206[a]
Imports[b]	9	43	79	24	
Total supply	26,477	16,164	19,351	25,020	25,748[c]
Exports	7,269	4,860	4,858	8,049	
Stocks at July 31	13,468	5,834	8,302	10,542	
Domestic disappearance	5,740	5,470	6,191	6,429	
			dollars per bushel		
Farm price[d]	0.92	1.02	1.04		

[a]Based on yields indicated at October 15.
[b]Includes rye flour in terms of rye.
[c]Excluding imports.
[d]Average price received by farmers for all grades and varieties.

TABLE 9.—MIXED GRAIN ACREAGE, CANADA AND PROVINCES, SELECTED PERIODS, 1954-66

Province	Average 1954–58	Average 1959–63	1964	1965	1966
			thousand acres		
Canada	1,554	1,466	1,431	1,506	1,583
Prince Edward Island	61	52	45	47	48
Nova Scotia	10	8	9	8	9
New Brunswick	6	7	8	8	8
Quebec	195	106	92	92	92
Ontario	983	723	725	740	750
Manitoba	67	134	126	146	180
Saskatchewan	52	109	94	125	140
Alberta	175	323	328	335	350
British Columbia	4	4	4	4	6

TABLE 10.—SUPPLY AND PRICE SITUATION, MIXED GRAINS, CANADA, SELECTED PERIODS, 1954-66 (CROP YEAR, AUGUST 1 TO JULY 31)

Item	Average 1954–55–1958–59	Average 1959–60–1963–64	1964–65 (Revised)	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand bushels		
Production	64,631	64,609	66,395	74,170	72,955[b]
			dollars per bushel		
Farm price[b]	0.82	0.85	0.86		

[a]Based on yields indicated at October 15.
[b]Average price received by farmers for all grades and varieties.

TABLE 11.—CORN FOR GRAIN: ACREAGE IN CANADA, BY PROVINCE, 1954-66

Province	Average 1954–58	Average 1959–63	1964	1965	1966
			thousand acres		
Canada	509	466	660	752	771
Ontario	501	462	650	740	752
Manitoba	8	4	10	12	19

TABLE 12.—CORN FOR GRAIN: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-66 (CROP YEAR, AUGUST 1 TO JULY 31)

Item	Average 1954–55–1958–59	Average 1959–60–1963–64	1964–65 (Revised)	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand bushels		
Commercial stocks at August 1[a]	1,236	4,106	3,974	6,261	5,751
Production	29,515	31,159	52,965	59,648	63,121[b]
Imports	8,863	23,677	17,817	23,897	
Total supply	39,614	58,942	74,756	89,806	68,872[c]
Exports	918	314	480	530	
Commercial stocks at July 31[a]	1,334	4,590	6,261	5,751	
Domestic disappearance	37,361	54,038	68,015	83,525	
			dollars per bushel		
Farm price[d]	1.22	1.25	1.30		

[a]Includes U.S. and other foreign corn.
[b]Based on yields indicated at October 15.
[c]Excluding imports.
[d]Average for all grades and qualities.

TABLE 13.—ACREAGE OF TAME HAY[a], CANADA AND PROVINCES, SELECTED PERIODS, 1954-66

Province	Average 1954–58	Average 1959–63	1964	1965	1966
	thousand acres				
Canada	11,091	12,158	12,507	12,690	12,964
Prince Edward Island	204	183	180	181	188
Nova Scotia	306	243	227	229	229
New Brunswick	391	297	280	275	274
Quebec	3,489	3,386	3,432	3,415	3,488
Ontario	3,291	3,279	3,150	3,100	3,125
Manitoba	654	971	1,078	1,090	1,165
Saskatchewan	717	1,017	1,110	1,112	1,170
Alberta	1,703	2,388	2,628	2,830	2,850
British Columbia	337	393	422	458	475

[a]Including clover and alfalfa.

TABLE 14.—SUPPLY AND PRICE SITUATION, TAME HAY[a], CANADA, SELECTED PERIODS, 1954-66 (CROP YEAR, AUGUST 1 TO JULY 31)

Item	Average 1954–55–1958–59	Average 1959–60–1963–64	1964–65 (Revised)	1965–66 (Preliminary)	1966–67 (Preliminary)
	thousand tons				
Production	19,415	21,612	21,365	21,099	25,651[b]
	dollars per ton				
Farm price[c]	15.09	15.55	18.52		

[a]Including clover and alfalfa.
[b]Based on yields indicated at October 15.
[c]Average price received by farmers for all grades and varieties.

TABLE 15.—SUPPLY AND PRICE SITUATION, MILLFEEDS (BRAN, SHORTS AND MIDDLINGS), CANADA, SELECTED PERIODS, 1954-66 (CROP YEAR, AUGUST 1 TO JULY 31)

	Average 1954–55–1958–59	Average 1959–60–1963–64	1964–65 (Revised)	1965–66 (Preliminary)
	tons			
Stocks at August 1	8,201	7,568	11,712	4,782
Production	678,722	678,064	646,928	724,425
Total supply	686,923	685,632	658,640	729,207
Exports	103,115	83,079	95,143	112,394
Stocks at July 31	8,672	8,224	4,782	6,621
Domestic disappearance	575,136	594,329	558,715	610,192
	dollars per ton			
Price of bran at Toronto[a]	56.41	58.13	54.04	64.33
Price of shorts at Toronto[a]	60.73	61.69	56.46	66.17

[a]Average of mid-month quotations for carlots, f.o.b. Toronto; freight assistance payments deducted.

TABLE 16.—FREIGHT-ASSISTED SHIPMENTS OF WESTERN GRAINS INTO EASTERN CANADA AND BRITISH COLUMBIA, CROP YEARS 1954-55—1965-66 (CROP YEAR, AUGUST 1 TO JULY 31)

	Average 1954–55–1958–59	Average 1959–60–1963–64	1964–65 (Revised)	1964–65 (Preliminary)	1965–66 (Preliminary)
			thousand bushels		
Wheat	19,511	15,474	12,769	10,351	15,552
Oats	40,955	30,290	33,733	29,455	34,238
Barley	25,913	29,232	29,209	25,587	26,959
Rye	171	47	179	73	677
Corn	106	48	13	11	21
Totals	86,657	75,090	75,902	65,478	77,448
			tons		
Totals, 5 grains	1,911,254	1,683,360	1,662,866	1,427,724	1,715,181
Screenings	91,184	84,338	124,194	109,480	81,586
Millfeeds	541,989	551,267	493,178	426,888	468,903
Totals	2,544,427	2,318,965	2,280,238	1,964,092	2,265,670

TABLE 17.—MONTHLY AND YEARLY AVERAGE PRICES, CANADA, BASIS IN STORE, FORT WILLIAM-PORT ARTHUR SELECTED PERIODS, 1956-66

Month	Five-Year Average 1956–57—1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
			cents per bushel				
			Wheat No. 1 Northern				
August	166	183	197	193	205	193	211
September	166	184	199	193	205	193	212
October	165	184	198	201	204	195	211
November	165	185	197	204	204	195	
December	165	188	195	204	204	196	
January	166	190	196	206	202	198	
February	168	191	196	208	192	201	
March	167	191	196	208	193	202	
April	166	191	196	207	193	203	
May	166	197	195	206	193	204	
June	166	198	106	206	193	207	
July	168	196	195	206	194	210	
Yearly Average	165	190	196	203	198	200	
			1 C.W. Amber Durum				
August	205	294	312	226	211	193	225
September	203	322	284	208	209	193	227
October	198	346	262	217	208	195	227
November	195	347	264	222	200	195	
December	196	348	262	222	191	196	
January	197	349	262	223	191	198	
February	198	350	256	219	192	201	
March	197	350	241	218	193	202	
April	197	350	239	216	193	203	
May	198	356	237	214	193	204	
June	200	357	234	214	193	208	
July	212	355	233	214	194	218	
Yearly Average	200	344	257	218	197	201	
			2 C.W. Rye				
August	112	124	124	136	133	124	134
September	113	129	126	156	137	123	131
October	113	142	132	159	130	124	126
November	112	138	128	155	126	123	
December	107	140	136	156	125	126	
January	108	134	146	160	124	136	
February	108	136	147	152	126	137	
March	108	137	146	143	125	129	
April	108	142	149	141	121	129	
May	107	144	143	136	120	125	
June	108	147	136	136	120	131	
July	112	130	134	134	119	135	
Yearly Average	110	137	137	147	126	129	

TABLE 17.—Continued

Month	Five-Year Average 1956–57—1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
			cents per bushel				
			Feed Wheat				
August	133	162	180	166	180	168	187
September	134	164	181	166	180	168	189
October	134	166	180	174	180	168	190
November	135	169	180	177	179	168	
December	136	172	177	178	179	169	
January	138	174	176	179	177	172	
February	138	175	177	181	167	174	
March	138	175	176	181	168	176	
April	137	175	174	180	168	177	
May	136	181	171	179	168	178	
June	136	182	170	179	168	181	
July	138	180	170	180	168	185	
Yearly Average	136	173	176	176	174	174	
			1 Feed Oats				
August	74	95	84	74	77	81	90
September	74	98	78	76	78	82	90
October	74	92	74	76	79	82	90
November	73	88	75	75	79	82	
December	71	93	79	74	79	82	
January	72	90	80	75	79	85	
February	72	90	79	73	79	88	
March	71	90	78	74	79	89	
April	70	92	77	74	79	88	
May	71	92	77	75	79	87	
June	72	91	77	75	79	89	
July	75	91	76	76	80	90	
Yearly Average	72	92	78	75	79	86	
			1 Feed Barley				
August	97	124	123	106	118	125	134
September	97	130	122	109	120	128	133
October	99	128	123	113	121	128	133
November	96	125	123	110	122	128	
December	96	129	123	111	122	130	
January	96	130	125	114	123	132	
February	96	131	125	111	125	134	
March	95	131	122	112	125	130	
April	94	138	120	112	124	128	
May	94	136	116	112	125	127	
June	94	131	114	114	124	127	
July	99	130	112	114	124	130	
Yearly Average	96	130	121	111	123	129	

TABLE 18.—MONTHLY AND YEARLY AVERAGE PRICES OF ONTARIO CORN, SELECTED PERIODS, 1956-66

Month	Five-Year Average 1956–57—1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
			cents per bushel				
			Corn No. 2 Yellow[a]				
August	135	129	136	159	146	154	153
September	136	130	131	155	153	153	157
October[b]	118	121	120	130	128	120	146
November	114	113	122	131	124	125	
December	117	123	135	139	127	138	
January	120	126	141	143	132	140	
February	121	125	140	138	137	142	
March	122	129	140	138	139	142	
April	124	131	139	141	142	142	
May	125	138	140	144	148	143	
June	126	137	149	148	151	148	
July	127	141	152	145	151	148	
Yearly Average	124	129	137	143	140	141	

[a]Buying prices, carlots, f.o.b. Chatham, 15 per cent moisture (natural or kiln dried).
[b]New crop corn.

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TABLE 19.—FEED CONCENTRATE BALANCE, NUMBERS OF ANIMAL UNITS AND FEED PER UNIT, CANADA, CROP YEARS, BEGINNING AUGUST 1, AVERAGE 1960-64, ANNUAL 1960-66

Item	Average 1960–64	1960	1961	1962	1963	1964[a]	1965[b]	1966[c]
				million tons				
Supply								
Stocks beginning crop year[d]	4.7	4.9	4.8	3.0	4.8	6.0	4.5	4.7
Production of feed grains:								
corn	1.0	0.7	0.8	0.9	1.0	1.5	1.7	1.7
oats	6.8	6.8	4.8	8.4	7.7	6.1	7.1	6.6
barley	4.1	4.6	2.7	4.0	5.3	4.0	5.1	6.8
mixed grain and buckwheat	1.3	1.2	1.3	1.5	1.4	1.4	1.5	1.5
Total production	13.2	13.4	9.6	14.8	15.4	12.9	15.4	16.5
Imports of feed grains	0.7	0.6	0.9	0.9	0.7	0.5	0.7	0.6
Wheat and rye fed	1.6	2.0	1.4	1.4	1.7	1.5	1.7	1.7
By-product feeds fed	1.4	1.3	1.4	1.4	1.5	1.4	1.6	1.5
Total supply	21.6	22.2	18.1	21.4	24.0	22.4	23.9	24.9
Utilization								
Concentrates fed[e]								
corn	1.2	0.9	1.1	1.4	1.2	1.4	1.8	1.8
oats	5.9	5.9	4.9	6.3	6.4	6.2	6.3	6.0
barley	2.8	3.3	2.4	2.2	2.9	3.2	3.4	3.9
mixed grain and buckwheat	1.3	1.1	1.2	1.4	1.3	1.3	1.4	1.4
wheat and rye	1.6	2.0	1.4	1.4	1.7	1.5	1.7	1.5
oilseed cake and meal	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5
animal protein feeds	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2
other by-product feeds	0.7	0.8	0.8	0.7	0.8	0.7	0.9	0.8
Total concentrates fed	14.2	14.6	12.5	14.1	15.0	15.0	16.2	16.1
Feed grains for seed, human food and industry	1.6	1.6	1.6	1.7	1.6	1.7	1.7	1.7
Exports	1.1	1.2	1.2	0.8	1.5	1.2	1.2	1.1
Total utilization	17.0	17.4	15.2	16.6	8.0	17.9	19.2	18.9
Stocks at end of crop year[d]	4.6	4.8	3.0	4.8	6.0	4.5	4.7	6.0
Supply and utilization per animal unit								
Total supply (mil.tons)	21.6	22.2	18.1	21.4	24.0	22.4	23.9	24.9
Concentrates fed (mil. tons)	14.2	14.6	12.5	14.1	15.0	15.0	16.2	16.1
Grain-consuming animal units, June 1 (mil.)	15.8	15.3	16.0	15.5	15.8	16.5	16.2	16.3
Supply per animal unit (tons)	1.37	1.45	1.13	1.38	1.52	1.36	1.48	1.53
Concentrates fed per animal unit (tons)	.90	.95	.78	.91	.95	.91	1.00	.99

[a]Revised.
[b]Preliminary.
[c]Preliminary estimates based on production as of October 15 and forecasts of utilization and exports.
[d]Total stocks of oats and barley and commercial stocks of corn only.
[e]Total quantities fed in Canada, including domestically produced and imported grains and by-product feeds.
Note: Due to rounding the sums of individual items may not agree exactly with the totals.

TABLE 20.—FLAXSEED: ACREAGE IN CANADA BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966
			acres		
CANADA	2,418,380	1,955,660	1,977,500	2,320,000	2,070,400
Quebec	—	14,180	35,700	28,000	19,400
Ontario	18,240	21,040	23,500	24,000	19,000
Manitoba	635,800	703,400	1,025,000	1,350,000	1,220,000
Saskatchewan	1,334,800	783,200	521,000	560,000	475,000
Alberta	420,400	430,000	370,000	355,000	334,000
British Columbia	9,140	3,840	2,300	3,000	3,000

TABLE 21.—FLAXSEED: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-66 (CROP YEAR AUGUST 1—JULY 31)

	Average 1954–58	Average 1959–63	1964–65	1965–66	1966–67
			thousand bushels		
Stocks at August 1	4,462	5,637	6,551	7,141	10,747
Production	21,305	18,280	20,313	29,254	23,616
Imports	235	40	6	1	n.a.
Total supply	26,002	23,956	26,870	36,396	34,363
Exports	13,487	12,858	14,346	18,936	
Stocks at July 31	5,068	5,642	7,141	10,747	
Domestic disappearance	7,447	5,456	5,383	6,714	
			dollars per bushel		
Average farm price (all grades)	2.60	3.02	2.94		

TABLE 22.—RAPESEED: ACREAGE IN CANADA, BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966
			acres		
CANADA	354,680	507,200	791,000	1,435,000	1,388,000
Manitoba	18,720	30,300	84,000	145,000	158,000
Saskatchewan	301,200	293,200	303,000	555,000	620,000
Alberta	34,760	183,700	404,000	735,000	610,000

TABLE 23.—RAPESEED: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-66 (CROP YEAR, AUGUST 1—JULY 31)

	Average 1954–58	Average 1959–63	1964–65	1965–66	1966–67
			thousand bushels		
Stocks at August 1	n.a.	n.a.	n.a.	1,514	3,366
Production	4,911	8,024	13,230	22,600	25,500
Total supply	n.a.	n.a.	n.a.	24,114	28,866
Exports	n.a.	n.a.	9,276	13,632	
Stocks at July 31	n.a.	n.a.	1,514	3,366	
Domestic disappearance	n.a.	n.a.	n.a.	7,116	
			dollars per bushel		
Average farm price (all grades)	1.60	2.00	2.74	n.a.	

TABLE 24.—SOYBEANS: ACREAGE IN CANADA, BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966
			acres		
CANADA	246,840	227,700	231,000	265,000	268,000
Ontario	244,000	227,000	231,000	265,000	268,000
Manitoba	2,840	700	—	—	—

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TABLE 25.—SOYBEANS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-66
(CROP YEAR AUGUST 1—JULY 31)

	Average 1954–58	Average 1959–63	1964–65	1965–66	1966–67
			thousand bushels		
Production	5,846	5,814	6,976	8,030	8,656
Imports	9,885	13,846	16,457	17,058	
Total supply	15,731	19,660	23,423	25,088	
Exports	1,739	2,336	3,179	2,152	
Available for domestic use	13,992	17,324	20,244	22,936	
			dollars per bushel		
Average farm price (all grades)	2.09	2.29	2.87	2.65	

TABLE 26.—SUNFLOWER SEED: ACREAGE, PRODUCTION AND PRICES IN CANADA, 1954-66
(CROP YEAR AUGUST 1—JULY 31)

	Average 1954–58	Average 1959–63	1964–65	1965–66	1966–67
			acres		
CANADA	30,540	36,480	78,500	68,000	40,100
Manitoba	29,800	29,600	48,000	48,000	32,000
Saskatchewan	—	700	23,000	16,500	6,500
Alberta	740	6,180	7,500	3,500	2,000
			thousand pounds		
Production (Canada)	16,566	28,573	30,900	29,225	29,550
			cents per pound		
Average farm price	4.4	4.4	4.9		

Note: Imports and exports are not available.

LIVESTOCK, MEAT AND WOOL

HOGS

Situation

Hog gradings in Canada to the end of November 1966 totaled 6,177,739 (weekly average 131,441) compared with 6,467,983 gradings (weekly average 137,617) for the corresponding period in 1965, a decline of 4.5 per cent. Gradings in Western Canada were down 12.5 per cent and Eastern Canada shows a slight increase of 0.6 per cent in 1966. Inspected slaughter in the U.S. to the end of October was down 4.1 per cent over the first 10 months in 1965. Although gradings in Canada and inspected slaughter in the United States in 1966 have both been consistently below year-earlier levels, this difference is becoming less pronounced. In both countries slaughter in the last half year has trended steadily upward and exceeded year-ago weekly levels.

Domestic disappearance of pork from commercial supplies in the January to October period of 1966 is estimated to average the equivalent of 125.7 thousand carcasses per week, down 6.2 per cent from the weekly average of 134 thousand for the same months in 1965.

Exports of pork from Canada to the end of October, 1966 were down to 43.1 million pounds, compared with 53.1 million in 1965 and 50.9 million in 1964. Imports in the first 10 months of 1966 were down 0.5 million pounds from 28.5 million in the same period in 1965, considerably less than the 45.4 million in the same period of 1964.

Hog Prices—Beginning in June 1965, hog prices in both the United States and Canada moved up sharply. In Chicago prices rose from an average of $21.16 live ($28.21 dressed equivalent) in May to an average of $28.79 live ($38.39 dressed) in December, an increase of 36.1 per cent. At Toronto the monthly average in May was $30.46 and this rose steadily to a peak of $41.64 in December, an increase of 36.7 percent. The National average weighted price for Grade "A" in 1965 was $31.77, compared to $26.24 in 1964, an increase of $5.54 per cwt. At an approximate carcass weight of 154 lbs. this meant that the average return per pig was about $8.53 higher in 1965. The main reason for the sharp price increase in the U.S. was the reduced marketings in 1965. In the first five months marketings were down 12 percent from 1964 levels, in the last quarter 20 percent below and for the year, 11 percent down. There were other con-

tributing factors, particularly the unusually small supply of pork in storage at May 31, 1965 (265 million pounds, compared with 432 million at the same date in 1964) and also the fact that beef supplies did not increase.

In both Canada and the United States the upward trend in hog prices continued into 1966 and remained at very high levels during the first two months, with slaughter in Canada down 15.8 per cent from year ago levels and in the U.S. down 17.5 percent. Beginning in March, the trend of prices has been downward, dropping from a monthly average at Chicago of $29.17 live ($38.89 dressed equivalent) in February to an average in September of $24.25 live (dressed equivalent $32.33). The general pattern of prices was the same at Toronto, where the monthly average in February was $43.19 and by October was down to $33.94. The National weighted average for Grade "A" carcasses in Canada from January to November 19, 1966 is $35.59, compared to $30.81 for the same period in 1965, an increase of $4.78 per cwt. or $7.35 on a 154 lb. carcass.

CANADA: WEEKLY AVERAGE HOG GRADINGS BY MONTHS
UNITED STATES: TOTAL INSPECTED SLAUGHTER BY MONTHS, 1965 TO DATE

	Canada				United States			
	1965	Change from 1964	1966	Change from 1965	1965	Change from 1964	1966	Change from 1965
	000	per cent	000	per cent	000	per cent	000	per cent
January	150.2	+ 6.5	120.3	−19.9	6,047	−13.1	4,719	−22.0
February	146.4	− 0.3	129.7	−11.4	5,301	−10.1	4,650	−12.3
March	153.6	+11.9	138.2	−10.0	6,534	+ 1.8	5,806	−11.2
April	148.3	− 1.2	132.8	−10.5	5,802	−10.5	5,303	− 8.6
May	141.5	+ 4.8	126.4	−10.7	4,719	−13.8	4,913	+ 4.1
June	128.3	− 1.6	121.0	− 5.7	4,717	− 6.4	4,672	− 1.0
July	124.7	+ 2.6	117.0	− 6.2	4,429	−10.1	4,228	− 4.5
August	124.6	+ 0.9	124.2	− 0.3	4,750	− 1.9	5,088	+ 7.1
September	129.5	− 4.2	132.2	+ 2.0	5,475	− 2.8	5,888	+ 7.5
October	131.8	− 7.0	150.7	+14.3	5,421	−20.3	5,731	+ 5.7
November	135.2	−12.1	154.2	+14.0	5,503	−15.9		
December	121.8	−25.1			5,010	−24.6		
Year	136.1	− 2.8		− 4.5[a]	63,708	−11.1		− 4.1[a]

[a]For first eleven months in Canada and first ten months in U.S.

TORONTO: MONTHLY AVERAGE, GRADE "A" HOG PRICES. CHICAGO: MONTHLY AVERAGE PRICES FOR BARROWS AND GILTS (NOS. 1, 2 AND 3, 200-220 POUNDS) BY MONTHS, JANUARY 1964 TO DATE

	Toronto Dressed			Chicago					
				Live			Dressed Equivalent		
	1964	1965	1966	1964	1965	1966	1964	1965	1966
	Can. $ per cwt.			U.S. $ per cwt.					
January	26.85	27.44	42.73	15.39	17.02	29.17	20.52	22.69	38.89
February	27.61	28.23	43.19	15.28	17.62	28.73	20.37	23.49	38.31
March	25.92	27.80	36.12	15.08	17.62	25.50	20.11	23.49	33.60
April	25.38	27.94	32.90	14.90	18.38	23.59	19.87	24.51	31.45
May	26.40	30.46	36.83	15.85	21.16	24.78	21.13	28.21	33.04
June	29.08	34.81	38.29	16.84	24.21	25.89	22.45	32.28	34.52
July	28.41	36.24	35.12	17.91	24.84	25.68	23.88	33.12	34.24
August	28.10	36.66	33.98	17.52	25.10	26.10	23.36	33.47	34.80
September	28.24	36.88	33.92	17.28	23.38	23.59	23.04	31.17	31.45
October	27.13	35.90	33.94	16.06	24.10	22.25	21.41	32.13	29.67
November	27.12	37.58	33.79	15.30	25.31	21.22	20.40	33.75	28.29[a]
December	27.63	41.64		16.48	28.79		21.97	38.39	
Year	27.30	33.40		16.16	22.29		21.55	29.72	

[a]Preliminary.

Outlook

Hogs on Farms in Canada—The D.B.S. September 1, 1966 Quarterly Hog Survey indicates that there were close to 6 million hogs on farms, up 11 percent from a year earlier. The increase amounted to 12 percent in the East and 10 percent in the West. Farmers indicated that farrowings in the September to November period may be up 25 percent above the corresponding period last year, with about the same percent increase in both the East and the West.

Hogs on Farms in United States—The September 1, U.S.D.A. Pig Crop Report estimated that the number of pigs on farms in ten Corn Belt States was up 7 percent from September 1, 1965. It is significant that breeding stock on farms in the Corn Belt States was up only 4 percent in September 1966 over year ago levels. Farmers in the ten Corn Belt States reported that they plan to increase farrowings by 6 percent in both the fall period (September—November) and the winter period (December—February).

Gradings in Canada—Gradings for the third quarter (July to September) of 1966 averaged 125,048 head per week, 1.2% down from the weekly average of 126,524 for the same quarter in 1965. Hog gradings in September 1966 increased by 2% and in October and November by 14% over the same months in 1965. For the year as a whole gradings will average 3.1% below 1965. In the first half of 1967 gradings are expected to be 10-12% higher than in the same period 1966. For the latter half of 1967, it is estimated that gradings will be 5-10% higher than in the same period 1966.

Gradings in the last quarter of 1967 will depend upon the 1967 spring farrowings, which may be somewhat larger than in 1966. However, the incentive for increased breeding in late 1966 and early 1967 may be considerably less than in late 1965 and early 1966 when hog prices in Canada were at extremely high levels. Feed grain prices are now higher than a year ago and are expected to remain at about present levels.

Marketings in the U.S.—Despite the fall increase in slaughter, the supply will be the lowest for the fourth quarter since 1960 and marketings will still be considerably lower than the heavy slaughter rates of 1963 and 1964. It is significant that the October-December slaughter in 1965 was the smallest for that quarter since the U.S.D.A. commenced monthly commerical slaughter estimates in 1946. The June-August pig crop is estimated to be up about 8 percent from a year ago, while the U.S.D.A. is estimating the fall pig crop up only 6-7 percent. This should result in an increase in marketings of possibly 6-9 percent for the first six months of 1967 over 1966.

Hog Prices—For the week ended November 26, 1966 Grade "A" hog prices at Toronto averaged $33.02 dressed and Choice barrows and gilts at Chicago averaged about $21.62 live ($28.83 dressed equivalent). In the U.S., hog prices at Chicago during the last quarter of 1966 are not expected to drop below the $21.00 level, live basis, ($28.00 dressed). Allowing for the normal spread between Chicago and Toronto, prices in Canada may not drop very much from present levels—possibly to a low of around $31.50 dressed at Toronto. Winter prices are expected to stay close to the fall levels and then show some improvement, beginning in the spring months.

If the early spring pig crop (December-February farrowings) in the U.S. is no greater than the predicted 6-7 percent increase, then U.S. hog prices next summer should be at least equal to what they are now. Prices in the fall of 1967 will depend largely on late spring farrowing (March-April-May). If these prove to be only about 6 percent higher in line with the December-February farrowing intentions, 1967 pork consumption would only be approximately 3-4 pounds per capita larger than in 1966. This should lead to price levels in the fall of 1967 somewhat lower but not greatly changed from the fall of 1966.

Longer-run Outlook—The longer-run outlook for the pig industry in Canada has to be viewed in terms of what takes place in the pig industry in the U.S.A. Down through the years the most important single factor affecting cyclical trends in hog production has been the corn-hog ratio.

The American Meat Institute states that the break-even point in the corn-hog ratio is now about 17 to 1. In other words, if the value of 17 bushels of corn equals the price of 100 pounds of live hog during the fall breeding season, it will be a toss-up for U.S. hog producers whether to increase or reduce farrowings. For a long period of years prior to World War II the corn-hog price ratio of 12 to 1 during the fall breeding season was considered about the break-even figure. Mounting costs brought this up to about 14 to 1 for the 1947-57 period. Since 1958 it has been about 17 to 1. In September the ratio dropped to 16.3 to 1, after having been 17 to 1 (and higher) since May 1965. In brief, the corn-hog ratio has turned unfavourable to further hog expansion—16.0 to 1 in October and 15.8 to 1 in November.

The American Meat Institute points out that in face of higher prices for corn, increasing hog production costs and the competition of cash grain farming, it is quite possible that an 18 to 1 corn-hog ratio may prove the break-even point in the hog enterprise. This leads to the conclusion that the industry is in for a long period of favorable prices in the United

U.S. CORN HOG RATIO

	1939	1949	1960	1961	1962	1963	1964	1965	1966
January	14.3	13.8	10.9	15.8	16.0	13.3	12.2	12.9	21.8
February	16.3	15.6	12.0	16.1	15.5	12.8	12.4	13.4	21.7
March	15.8	15.3	13.5	15.9	14.7	11.6	12.0	13.1	19.6
April	14.4	13.6	13.4	15.9	14.4	11.7	11.6	13.5	17.5
May	13.3	13.9	13.3	14.7	13.6	12.4	11.8	15.3	18.4
June	12.9	15.3	14.1	15.0	14.9	13.4	12.9	17.6	18.5
July	13.9	15.3	14.8	15.7	16.4	14.5	14.3	18.7	18.0
August	13.8	16.4	14.3	16.2	17.0	13.3	13.9	19.5	17.5
September	14.4	15.8	14.3	16.6	17.1	11.9	13.5	18.0	16.3
October	14.6	15.7	16.7	15.7	15.5	13.3	13.0	20.0	16.0
November	12.2	13.9	18.4	14.9	15.6	12.9	12.5	21.9	15.8[a]
December	9.7	11.9	17.2	15.7	14.6	12.2	12.8	23.4	
Year	13.8	14.7	14.4	15.7	15.4	12.7	12.6	16.9	

[a]Preliminary.

States (high in relation to the historic pattern) possibly $20.00 or better alive ($26.65 dressed equivalent). This is based on the expectation of only a moderate expansion in pork output, plus the long-term outlook for less beef and higher prices for cattle. Prices in Canada will follow in the relationship established under the "North American Economy".

According to the United States 1964 Census of Agriculture, the structure of the hog industry is changing rapidly. Hog production is becoming increasingly more concentrated in the hands of fewer producers and more of the pork supply is coming from larger specialized farms. On such farms fixed production expenses become a larger proportion of total operating costs. While feed remains the No. 1 expense item, it becomes relatively less important to the commercial operator, so he is not in a position to make production adjustments as easily as the smaller producer with a lesser share of his total investment wrapped up in fixed costs. A sizeable number of hog producers are believed to have switched to cash-grain operations. As a result, fluctuations in slaughter levels are expected to be more moderate in the future.

When data from the 1966 census become available in Canada they will undoubtedly show very similar trends in the Canadian hog industry.

CATTLE

Situation

Cattle marketings in Canada sold on public stockyards and shipped direct to packing plants, in the January to October period of 1966 totaled 2,762,986 (64,255 weekly), virtually no change from the total of 2,762,762 (64,250 weekly) in 1965. Marketings in Western Canada were up 4.6 per cent, with the major increase occurring in Alberta. In Eastern Canada marketings were 8.0 per cent lower, with smaller marketings in Ontario accounting for most of the downturn.

Inspected slaughter (beef gradings) in the first 11 months of 1966 totaled 2,471,527 (52,586 weekly), a decrease of only 0.5 per cent over the total of 2,483,871 (52,848 weekly) for the same period in 1965. Total beef gradings in 1966 exceeded 1965 levels until November 12, 1966 but had been below on weekly basis since mid-July.

The pattern with respect to sex shows that there have been some significant changes since 1964.

During the last quarter of 1965 the change over 1964, with respect to the sex pattern, was: steers, −9.7 per cent; heifers, + 13.3 per cent; cows, +40.5 per cent.

Compared to 1964 there was a marked increase in 1965 in the number of both heifers and cows slaughtered. In 1966 the slaughter of cows was substantially above year-earlier levels until May—since then cow slaughter has been under year-ago levels. Heifer numbers were above 1965 levels until April—since then the decrease from year-earlier totals has been about 12 per cent. To the end of November heifer and cow totals show slight declines from 1965 for the same period.

The domestic disappearance of beef from commercial supplies for the first 10 months of 1966 averaged 51.4 thousand head per week, compared to 50.6 thousand for the same period in 1965, an increase of 1.6 per cent. With lighter beef supplies in the fall of 1966 it would appear that per capita consumption of beef may be slightly less this year than the 78.7 pounds in 1965, although total disappearance may be up.

CATTLE MARKETING SOLD ON PUBLIC STOCKYARDS AND DELIVERED DIRECT TO PACKING PLANTS

	January to October		Change in number	Per Cent Change
	1965	1966		
	number			
British Columbia	44,728	44,086	− 642	− 1.4
Alberta	913,490	986,793	+ 73,303	+ 8.0
Saskatchewan	498,198	513,427	+ 15,229	+ 3.0
Manitoba	292,195	285,430	− 6,765	− 2.3
WEST	1,748,611	1,829,736	+ 81,125	+ 4.6
Ontario	853,327	799,872	− 53,455	− 6.3
Quebec	126,205	98,674	− 27,531	− 21.8
Maritimes	34,619	34,704	+ 85	+ 0.2
EAST	1,014,151	933,250	− 80,901	− 8.0
CANADA	2,762,762	2,762,986	+ 224	—

SEX PATTERN: AVERAGE WEEKLY INSPECTED SLAUGHTER IN CANADA IN THE PERIOD JANUARY-NOVEMBER, 1964, 1965 AND 1966

Sex	1964	1965	1966	Per Cent Change 1965/1964	Per Cent Change 1966/1965
Steers	24,105	24,878	25,081	+ 3.2	+ 0.8
Heifers	8,809	10,778	10,728	+ 22.4	− 0.5
Cows	11,825	15,767	15,626	+ 33.3	− 0.9
Bulls	1,199	1,425	1,151	+ 18.8	− 19.2
	45,938	52,848	52,586	+ 15.0	− 0.5

SEX PATTERN: AVERAGE WEEKLY INSPECTED SLAUGHTER IN THE 11-MONTH PERIOD JANUARY-NOVEMBER 1965 AND 1966

	Steers			Heifers			Cows		
	1965	1966	Per cent Change	1965	1966	Per cent Change	1965	1966	Per cent Change
January	26,657	22,961	−13.9	10,712	12,602	+17.6	14,384	19,186	+33.4
February	24,418	20,466	−16.2	9,751	11,789	+20.9	12,466	16,825	+35.0
March	24,267	22,560	− 7.0	9,160	11,018	+20.3	11,612	15,847	+36.5
April	24,129	24,774	+ 2.7	9,132	9,546	+ 4.5	10,985	13,672	+24.5
May	25,596	28,114	+ 9.8	10,132	9,044	−10.7	11,330	13,252	+17.0
June	24,037	26,995	+12.3	11,133	9,862	−11.8	12,998	12,841	− 1.2
July	24,584	26,808	+ 9.0	11,345	9,713	−14.4	15,394	12,948	−15.9
August	24,182	25,279	+ 4,5	11,969	10,495	−12.3	16,756	12,978	−22.6
September	26,015	26,345	+ 1.3	11,909	10,183	−14.5	19,334	14,209	−26.5
October	25,375	26,978	+ 6.3	11.464	12,511	+ 9.1	22,774	19,723	−13.4
November	24,473	24,444	− 0.1	11,827	11,513	− 2.7	26,245	21,409	−18.4
	1,169,247	1,178,798	+ 0.8	506,591	504,223	− 0.5	741,058	734,404	− 0.9

Exports and Imports of Beef and Veal—For the first 11 months of 1966, the exports of beef and veal are approximately 55 million pounds, compared with 70.3 million for the comparable period a year earlier. The decrease is due primarily to the smaller volume of cow slaughter in recent months, the main source of boneless veal for export. Imports in the first 10 months of 1966 are 30.2 million pounds on a preliminary basis, compared with 31.4 million pounds in 1965 and 39.4 million in 1964.

Exports of Live Cattle—Exports of feeder cattle to the U.S. for the first 11 months totaled 270,705 head, compared to 320,266 in 1965 and 77,392 head in 1964 for the corresponding time period. The heaviest movement of feeder cattle exports occurred during the first four months of 1966 but in the May-September period have been about 60 per cent of the volume of year earlier exports. For the first 11 months exports of slaughter cattle totaled 38,710 head, compared with 54,547 in 1965 and 26,600 head in 1964.

Fed Cattle Prices in Canada—The gradings of Choice and Good carcasses combined averaged, to November 26, a total of 27,324 weekly, 3.4 per cent above the same period last year (26,437 weekly). The volume of fed cattle for the first nine months was sufficient to keep prices at slightly above the export basis until September, when the price of Choice Steers at Toronto rose substantially above the price level of Choice Steers at Omaha. For example, during week ending October 1 Omaha averaged $25.45 while the average price at Toronto was $27.75. For the nine months, January-September, Choice steers at Toronto averaged $27.06 (simple average) and at Omaha in U.S. dollars Choice steers averaged $26.25 (simple average). In October and November, the Toronto prices ranged $3 to $4 above the Omaha prices which is approaching the import basis. A few cattle were imported from the U.S. in these two months and for the first 11 months of 1966, imports were 834 head. There were no imports in 1965 and 30,878 head were imported in 1964.

Fed Cattle Prices U.S.A.—For the first ten months of this year the inspected cattle slaughter was up 2 percent.

The numbers by sex January-July were:

	1965	1966	Per cent Change
	000		
Steers	7,731	7,986	+ 3.3
Heifers	3,182	3,860	+21.3
Cows	3,343	3,474	+ 3.9

However, slaughter has been running below a year ago, every week since late August. All of the decrease is coming from cows; their slaughter has been below year-earlier levels since May. The slaughter of heifers showed definite signs of slowing down in September, after remaining at high levels from January to August. Prices of Choice steers at Omaha rose from $25.91 in January to a level of $28.25 in March, declined to an average of $25.54 per cwt. in September and to about $24 in November.

PRICES OF CHOICE STEERS AT TORONTO AND OMAHA, BY MONTHS, 1964 TO DATE

	Toronto			Omaha		
	1964	1965	1966	1964	1965	1966
	Can. $ per cwt.			U.S. $ per cwt.		
January	22.91	23.56	27.74	22.20	22.98	25.91
February	23.54	23.60	28.72	21.36	22.53	27.16
March	23.85	24.00	28.32	21.38	23.17	28.25
April	24.25	24.00	27.37	20.88	24.38	26.94
May	24.25	24.91	26.85	20.28	26.00	25.94
June	24.25	26.86	26.08	21.25	26.69	25.25
July	24.78	26.84	25.64	22.69	26.05	25.27
August	24.25	26.28	25.56	24.73	26.28	25.76
September	24.26	25.67	27.24	24.75	26.19	25.54
October	23.70	25.50	27.74	23.66	25.33	24.70
November	23.26	26.06	27.61	23.45	24.93	23.76[b]
December	23.50	26.79		22.79	25.38	
YEAR	24.05	25.20	(27.17)[a]	22.41	24.99	(25.86)[a]

[a]11 month simple average.
[b]Preliminary.

Outlook

Cattle numbers in Canada—The total number of cattle and calves on farms in Canada at June 1, 1966 as reported by D.B.S. is 12.5 million head.

Cattle numbers in the U.S.—The pattern with respect to the present cycle is very similar to that in Canada.

The significant feature is that cattle numbers on this continent, after rising from a low in 1958, reached a peak in 1965. The first stage of the downswing in this cattle cycle occurred in 1966.

Cattle on Feed in Canada—From the marketings of Choice and Good for the 4 weeks ending October 15 (an average of 29,784 weekly, compared with 27,244 weekly for the same period in 1965, an increase of 9.3 percent) it seems evident that there are more cattle in feedlots than at the same period a year ago. The available information indicates that cattle going on feed since September 1 show a small increase. However, as a result of excellent crops and harvesting conditions in both Western Canada and to some extent in Ontario, there is certain to be a greater demand than a year ago from feedlot operators in Canada for feeder cattle and calves available to go into feedlots—everything suitable will likely go on feed either in Canada or on export to the U.S.

Two factors tend to cancel each other out—a decrease of 115,300 head (3.2 percent) in the number of calves on farms at June 1, 1966; an expected smaller total export of feeder cattle. Therefore, there will likely be a small increase in cattle on feed at January 1, 1967 compared to a year earlier.

Cattle on Feed—U.S.: The October 1, 1966 U.S.D.A. Cattle On Feed Report shows an 8 percent increase over the year earlier levels. This indicates about a 6-7 percent increase in fed cattle marketings during the fourth quarter of 1966, compared with the same quarter in 1965, but below the levels recorded during the past summer.

However, some of the cattle in feedlots October 1 will not be marketed until into 1967. The 1966 calf crop is estimated to be down 2 percent (913,000 head) from 1965 and it is expected that a substantial number of heifer calves will be returned for the breeding herd. Even with increased numbers on feed October 1, it appears that there will be little change in cattle

CATTLE ON FARMS JUNE 1, CANADA

	1958	1965	1966	Per cent Change 1965/58	Per cent Change 1966/65
		000			
Total Cattle	10,990.0	13,001.0	12,546.0	+18.2	− 3.5
Beef Cows	2,011.5	2,870.8	2,768.8	+42.7	− 3.6
Beef Heifers	772.0	995.6	905.1	+29.0	− 9.1
Total Beef	2,783.5	3,866.4	3,673.9	+38.9	− 5.0
Dairy Cows	3,028.0	2,885.0	2,799.0	− 4.7	− 3.0
Dairy Heifers	716.0	648.0	592.9	− 9.5	− 8.5
Total Dairy	3,744.0	3,533.0	3,391.9	− 5.6	− 4.0

CATTLE ON FARMS JANUARY 1, U.S.A.

	1958	1965	1966	Per cent Change 1965/58	Per cent Change 1966/65
		000			
Total Cattle	91,176	107,184	106,557	+ 17.5	− 0.6
Beef Cows	24,165	32,784	32,636	+ 35.7	− 0.5
Beef Heifers	5,903	8,547	8,341	+ 44.7	− 2.4
Total Beef	30,068	41,331	40,977	+ 37.4	− 0.9
Dairy Cows	21,265	17,592	16,607	− 17.3	− 5.6
Dairy Heifers	5,126	4,364	4,068	− 14.9	− 6.8
Total Dairy	26,391	21,956	20,675	− 16.9	− 5.8

numbers on feed at January 1, 1967 from the same date a year previous.

Feeder Cattle Prices—At Sioux City good feeder steers were quoted in mid-October at $26.00—$27.25.

At Calgary good feeder steers averaged $27.42 in September. For the week ending October 15 the average was about $25.00. The general price for "feeders" in Southern Alberta in mid-October was about $25.00—$26.00 for yearling steers; $29.50—$31.00 for steer calves; $23.00—$24.00 for heifer calves. This price level has remained relatively unchanged into November.

With this price situation it is expected that feedlot operators in Canada will continue to take the bulk of the available supply of feeders, so exports of feeder cattle and calves may not reach the lower volume recorded during the last quarter of 1964. During September and October 1966 exports of feeder cattle totaled 98,943 head, compared to 124,079 in September and October 1965. Exports during the last quarter of 1965 totaled 243,000 head.

Slaughterings—The total slaughter, due to the dropping off in cow and heifer marketings, will be lower than a year ago for the balance of 1966. In the U.S. steer slaughter for the last quarter of 1966 is expected to continue about 6 percent above the level in the same quarter of last year and tend to decrease in a normal slaughter pattern. In Canada the supply of fed beef in 1967 will likely be a little higher than in 1966. In the U.S. the total supply of fed steer and heifer beef will be less in 1967 than in the previous year.

Prices—Based on predicted marketings in the U.S., prices of Choice steers at Omaha (about $24.75 at mid-November) should rise moderately by the end of the year. Prices in 1967 are expected to be higher due to lower supplies of beef, possibly ranging between about $27.00 and $29.00 for Choice steers at Omaha. The price paid at Toronto in September was higher than at Omaha and this spread has continued to widen. These price relationships have halted exports of slaughter cattle to the United States.

Depending upon domestic disappearance of beef in Canada, there may not be sufficient cattle on feed to keep price levels at Toronto in 1967 at, or close to, the "export basis" for as long a period (about 7 months) as was the case in 1966.

The longer-run outlook for the beef cattle industry on the North American continent is optimistic. Slaughter rates during the first three quarters of 1966 indicate cattle numbers in both Canada and the U.S. have continued the downward trend started in 1965. By January 1967 cattle numbers in the U.S. are expected to be 1.5 to 2 percent below the January 1966 figure of 106.3 million head. Numbers have declined from a peak of 106.9 million head on January 1, 1965.

It would appear that cow-calf operators do not yet feel the situation sufficiently attractive to start holding back heifers in large numbers. The smaller number of cows on farms means a reduced calf crop and subsequently less cattle available to go into feedlots. Furthermore, the next 2-3 years will be a period of rebuilding herds and, therefore, the numbers of heifers available for feeding will be less. Thus, the total cattle slaughter during the rebuilding period will be less than during the last three years. Even if large numbers of heifers go back into herds this fall, it will be late 1969, or possibly 1970, before any substantial increase in fed beef can be made available at retail level.

Prices for fed cattle are expected to be strong over the next three years—Choice steers at Omaha at around $27.00 and higher. The producer of feeder cattle on this continent should be in a favorable position for the next few years. The feedlot operator may experience difficulty in obtaining a satisfactory margin—the competition for the smaller available supply of feeder cattle may force prices to a level that is high in comparison with the price of fed cattle.

CALVES FOR SLAUGHTER

Situation

Federally inspected calf slaughter for the first 11 months of 1966 totaled 719,573 head (weekly average 15,310), compared with 836,561 head (weekly average 17,800) for the same period in 1965, a decline of 14.0 percent. Inspected slaughter remained above the year ago levels during the first quarter of 1966 but since March has gradually declined.

Domestic disappearance of veal for the first 10 months of 1966 is estimated to total 81,132,000 pounds, compared with 90,941,000 for the same period last year, a decline of 18.9 percent. *Exports* of live veal calves to the United States totalled 90,674 head to the end of November 1966, compared with 58,392 in 1965 and 48,723 head in 1964 for the same period.

Prices of good and choice veal calves at Toronto from January to November 1966 have remained above year ago prices for all months. The simple average for the first 10 months of 1966 was $34.75 compared with $30.25 for 1965.

Outlook

Veal calf marketings totalled 1,151,019 head in 1964 and increased to 1,383,238 head in 1965. To the end of September 1966, marketings have been 2% down from one year ago, with a moderate increase

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in Western Canada (5.0%) being offset by a decline of 6.2% in the East. The number of calves reported D.B.S. on farms June 1, 1966 totalled 3.5 million head, down 3.2 percent from one year ago. Prices for the remainder of 1966 and 1967 are expected to remain at high levels.

SHEEP AND LAMBS

Situation

Marketings of sheep and lambs on public stockyards and shipped direct to packing plants to the end of September 1966 totalled 207.3 thousand head, compared to 270.9 thousand for the same period last year, a decline of 23.5 percent. Marketings dropped in both Western and Eastern Canada by 27 and 19 percent respectively. Live imports from the United States to the end of October 1966 totaled 18,455 head, slightly above the 17,666 head imported for the same period last year. To November 26, 1966 slaughter in federally inspected and approved packing plants totaled 298,603 head, down 20.4 percent from 375,251 head slaughtered in the corresponding period in 1965.

Domestic disappearance of lamb and mutton up to the end of October increased to 51.9 million pounds from the 1965 level of 43.4 million pounds, an increase of 19.6 percent. During this time imports are estimated to total 46.2 million pounds, up 73 percent over levels of one year ago. Most of the increase in imports has been in mutton.

The prices for choice or good lambs at Toronto in 1966 have been higher than in 1965. The national average price of lamb eligible for price support from April 1 to November 19 was $23.70, compared with the support level of $18.80 per hundredweight, and last year's average of $21.91 for the same period.

Outlook

Sheep and lamb numbers at June 1, 1966 were estimated by D.B.S. to total 1,094,000 head, down 6 percent from June 1, 1965. Numbers in Eastern Canada declined 5 percent and numbers in the West dropped 8 percent. Marketings in 1967 will probably continue to decline and prices are expected to average above 1966.

WOOL

Production of shorn wool in 1966 is estimated at 4.2 million pounds, greasy basis, a drop of 8.7 percent from the 4.6 million pounds produced in 1965 (Table

TABLE 1.—MEATS: SUPPLIES AND DISTRIBUTION FROM INSPECTED SLAUGHTERINGS OR CARCASS GRADINGS, CANADA, 1965 AND 1966

	Unit	Pork	Beef	Veal	Mutton and Lambs	Total Meats
		thousand pounds chilled carcass				
1965						
Stocks at January 1/65		29,320	49,221	6,400	9,290	94,231
Production		908,561	1,407,683	111,871	17,715	2,445,830
Imports		37,515	38,533	[a]	30,990	107,038
Total supply		975,396	1,495,437	118,271	57,995	2,647,099
Exports		64,741	83,412	[a]	370	148,523
Stocks at December 31/65		24,269	51,224	4,944	6,737	87,174
Domestic disappearance	000 lbs.	886,386	1,360,801	113,327	50,888	2,411,402
	000 head	6,904	2,643	906	1,177	
Weekly average	000 head	132.8	50.8	17.4	22.6	
1966[b]						
Stocks at January 1/66		24,269	51,224	4,944	6,737	87,174
Production		891,800	1,417,630	95,000	14,300	2,418,730
Imports		35,000	38,500	[a]	56,000	129,500
Total supply		951,069	1,507,354	99,944	77,037	2,635,404
Exports		52,000	65,000	[a]	330	117,330
Stocks at December 31/66		34,569	52,854	2,444	11,707	101,074
Domestic disappearance	000 lbs.	864,500	1,390,000	97,500	65,000	2,417,000
	000 head	6,650	2,638	780	1,472	
Weekly average	000 head	128	50.7	15	28.3	

[a]Small quantity only and included in beef.
[b]Estimated.

16). Production of shorn wool declined in every province, with the smallest decline occurring in Ontario and Prince Edward Island.

The Price Support Programme for Wool is a deficiency payment programme, the Agricultural Stabilization Board paying producers the difference between the support price of 60 cents per pound and the average prices for representative wool grades, f.o.b. Toronto. The stabilization year for wool is April 1 to March 31. In the 1964-65 marketing year the wool deficiency payment was 12.3 cents per pound, and payments to producers totaled approximately $551,421. In the 1965-66 marketing year the deficiency payment was 16.3 cents per pound of wool and payments to producers amounted to about $600,000.

In the United States production of shorn wool is estimated by the U.S.D.A. at 211.2 million pounds, greasy basis, for 1966. This is one percent less than in 1965.

In Canada the decline in wool production is almost entirely due to an 8 percent drop in the number of sheep shorn, from 594,000 in the spring of 1965 to 545,000 in the spring of 1966. Sheep numbers in Canada in 1967 are again expected to decline, with the 1967 wool clip also below the previous year levels.

TABLE 2.—HOGS: NUMBER ON FARMS AT JUNE 1, CANADA, 1965-1966

	Hogs on Farms, June 1					
	1965		1966		Change in Numbers	Percentage Change
	Thousands	Per Cent of Total	Thousands	Per Cent of Total		
					000's	
Maritimes	170	3.3	179	3.3	+ 9	+ 5.3
Quebec	932	18.1	1,030	18.9	+ 98	+10.5
Ontario	1,940	37.8	2,080	38.2	+ 140	+ 7.2
Manitoba	408	7.9	480	8.8	+ 72	+17.6
Saskatchewan	405	7.9	428	7.9	+ 23	+ 5.7
Alberta	1,245	24.3	1,208	22.2	− 37	− 3.0
British Columbia	36	0.7	38	0.7	+ 2	+ 5.6
Eastern Canada	3,042	59.2	3,289	60.4	+ 247	+ 8.1
Western Canada	2,094	40.8	2,154	39.6	+ 60	+ 2.9
Total Canada	5,136	100.0	5,443	100.0	+ 307	+ 6.0

TABLE 3.—PORK PRODUCTS: SUPPLIES AND DISTRIBUTION FROM CARCASS GRADINGS, CANADA, 1954-1966
(Cold Trimmed Carcass Basis)

	Unit	Average 1954–58	Average 1959–63	1964	1965	1966 Estimated
Stocks at January 1	000 lbs.	29,799	35,199	27,239	29,320	24,269
Carcass gradings	000 head	5,763	6,979	7,282	7,077	6,860
Average carcass weight	lbs.	130.8	129.4	129.3	128.4	130.0
Total carcass weight	000 lbs.	753,947	903,461	941,298	908,561	891,800
Imports	000 lbs.	971	37,211	53,658	37,515	35,000
Total supply	000 lbs.	784,717	975,871	1,022,195	975,396	951,069
Exports	000 lbs.	66,203	62,690	62,922	64,741	52,000
Surplus disposal[a]	000 lbs.	—	26,746	—	—	—
Stocks at December 31	000 lbs.	33,168	31,128	29,320	24,269	34,569
Domestic disappearance	000 lbs.	685,346	855,307	929,953	886,386	864,500
	000 lbs.	5,238	6,607	7,194	6,904	6,650
Weekly average	000 head	100.7	127.1	138.3	132.8	128.0

[a]Under federal government price support operations.

TABLE 4.—CATTLE AND CALVES: NUMBERS ON FARMS AT JUNE 1, CANADA, 1965-1966

	Cattle on Farms, June 1					
	1965		1966		Change in Numbers	Percentage Change
	Thousands	Per Cent of Total	Thousands	Per Cent of Total		
					000's	
Maritimes	437	3.4	404	3.2	− 33	−7.6
Quebec	1,990	15.3	1,917	15.3	− 73	−3.7
Ontario	3,344	25.7	3,234	25.8	−110	−3.3
Manitoba	1,150	8.8	1,089	8.7	− 61	−5.3
Saskatchewan	2,340	18.0	2,253	18.0	− 87	−3.7
Alberta	3,195	24.6	3,118	24.8	− 77	−2.4
British Columbia	545	4.2	531	4.2	− 14	−2.6
Eastern Canada	5,771	44.4	5,555	44.3	−216	−3.8
Western Canada	7,230	55.6	6,991	55.7	−239	−3.3
Total Canada	13,001	100.0	12,546	100.0	−455	−3.5

TABLE 5.—BEEF COWS AND HEIFERS: NUMBER ON FARMS AT JUNE 1, CANADA, 1965 AND 1966

	On Farms, June 1					
	1965		1966		Change in Numbers	Percentage Change
	Thousands	Per Cent of Total	Thousands	Per Cent of Total		
					000's	
Maritimes	66.4	1.7	59.9	1.6	− 6.5	− 9.8
Quebec	109.0	2.8	98.0	2.7	−11.0	−10.1
Ontario	607.0	15.7	564.0	15.3	−43.0	− 7.1
Manitoba	416.0	10.8	388.0	10.6	−28.0	− 6.7
Saskatchewan	1,055.0	27.3	1,013.0	27.6	−42.0	− 4.0
Alberta	1,388.0	35.9	1,325.0	36.1	−63.0	− 4.5
British Columbia	225.0	5.8	226.0	6.1	+ 1.0	+ 0.4
Eastern Canada	782.4	20.2	721.9	19.6	− 60.5	− 7.7
Western Canada	3,084.0	79.8	2,952.0	80.4	−132.0	− 4.3
Total Canada	3,866.4	100.0	3,673.9	100.0	−192.5	− 5.0

TABLE 6.—BEEF: SUPPLIES AND DISTRIBUTION FROM INSPECTED SLAUGHTERINGS, CANADA, 1954-1966

	Unit	Average 1954–58	Average 1959–63	1964	1965	1966 Estimated
Stocks at January 1	000 lbs.	32,836	33,636	44,801	49,221	51,224
Inspected slaughterings	000 head	1,817	1,976	2,422	2,734	2,690
Average carcass weight (chilled)	lbs.	486.0	513.9	525.8	514.8	527.0
Total carcass weight (chilled)	000 lbs.	883,195	1,015,771	1,273,681	1,407,683	1,417,630
Imports	000 lbs.	48,229	58,324	47,703	38,533	38,500
Total supply	000 lbs.	964,260	1,107,731	1,366,185	1,495,437	1,507,354
Exports	000 lbs.	29,517	23,657	34,718	83,412	65,000
Stocks at December 31	000 lbs.	32,258	35,731	49,221	51,224	52,354
Domestic disappearance	000 lbs.	902,485	1,048,343	1,282,246	1,360,801	1,390,000
	000 head	1,857	2,040	2,438	2,643	2,638
Weekly average	000 head	35.7	39.2	46.9	50.8	50.7

TABLE 7.—VEAL: SUPPLIES AND DISTRIBUTION FROM INSPECTED SLAUGHTERINGS, CANADA, 1954-1966

	Unit	Average 1954–58	Average 1959–63	1964	1965	1966 Estimated
Stocks at January 1	000 lbs.	5,267	4,574	5,425	6,400	4,944
Inspected slaughterings	000 head	842	692	750	895	760
Average carcass weight[a]	lbs.	105.4	117.3	123.2	125.0	125.0
Total carcass weight	000 lbs.	88,789	81,198	92,438	111,871	95,000
Imports[b]	000 lbs.	—	—	—	—	—
Total supply		94,056	85,772	97,863	118,271	99,944
Exports[b]	000 lbs.	—	—	—	—	—
Stocks at December 31	000 lbs.	5,118	4,668	6,400	4,944	2,444
Domestic disappearance	000 lbs.	88,938	81,104	91,463	113,327	97,500
	000 head	844	691	742	906	780

[a]Chilled carcass basis, hide off.
[b]Small quantities only and included with beef.

TABLE 8.—SHEEP AND LAMBS: NUMBER ON FARMS AT JUNE 1, CANADA, 1965 AND 1966

	Sheep and Lambs on Farms, June 1					
	1965		1966		Change in Numbers	Percentage Change
	Thousands	Per Cent of Total	Thousands	Per Cent of Total		
					000's	
Prince Edward Island	16	1.4	15	1.4	— 1	— 6.2
Nova Scotia	44	3.8	40	3.6	— 4	— 9.1
New Brunswick	32	2.7	29	2.7	— 3	— 9.4
Quebec	133	11.4	122	11.2	—11	— 8.3
Ontario	302	25.8	296	27.0	— 6	— 2.0
Manitoba	57	4.9	47	4.3	—10	—17.6
Saskatchewan	150	12.8	138	12.6	—12	— 8.0
Alberta	355	30.4	333	30.4	—22	— 6.2
British Columbia	80	6.8	74	6.8	— 6	— 7.5
Eastern Canada	527	45.1	502	45.9	—25	— 4.8
Western Canada	642	54.9	592	54.1	—50	— 7.8
Total Canada	1,169	100.0	1,094	100.0	—75	— 6.4

TABLE 9.—MUTTON AND LAMBS: SUPPLIES AND DISTRIBUTION FROM INSPECTED SLAUGHTERINGS, CANADA, 1954-1966

	Unit	Average 1954–58	Average 1959–63	1964	1965	1966 Estimated
Stocks at January 1	000 lbs.	4,243	8,242	9,465	9,290	6,737
Inspected slaughterings	000 head	577	573	498	410	325
Average carcass weight	lbs.	42.8	43.0	43.7	43.2	44.0
Total carcass weight	000 lbs.	24,695	24,641	21,745	17,715	14,300
Imports	000 lbs.	12,059	32,613	37,654	30,990	56,000
Total supply	000 lbs.	40,997	65,496	68,864	57,995	77,037
Exports	000 lbs.	444	453	757	370	330
Stocks at December 31	000 lbs.	5,457	8,215	9,290	6,737	11,707
Domestic disappearance	000 lbs.	35,096	56,828	58,817	50,888	65,000
	000 head	820	1,322	1,346	1,177	1,477

TABLE 10.—SHORN WOOL: PRODUCTION IN CANADA BY PROVINCE, 1954-1966

	Average 1954–58	Average 1959–63	1964	1965	1966	1966 Per Cent of Total
	thousand pounds					
Prince Edward Island	117	86	58	53	52	1.3
Nova Scotia	282	211	150	143	127	3.0
New Brunswick	213	185	112	106	91	2.2
Quebec	1,092	712	510	490	435	10.4
Ontario	1,472	1,250	1,139	1,140	1,073	25.7
Manitoba	249	255	211	188	163	3.9
Saskatchewan	633	741	644	636	595	14.2
Alberta	1,746	2,143	1,882	1,611	1,394	33.4
British Columbia	348	389	359	286	248	5.9
Eastern Canada	3,176	2,444	1,969	1,932	1,778	42.6
Western Canada	2,976	3,528	3,096	2,721	2,400	57.4
Total Canada	6,152	5,972	5,065	4,653	4,178	100.0

DAIRY PRODUCTS

Situation

In 1966, the national dairy herd was the smallest in the past forty-six years. At June 1, 2,799,000 dairy cows were estimated to be on farms, or 86,000 head fewer than a year earlier and 6 per cent less than in 1961. All provinces, with the exception of Quebec, shared in this reduction, which averaged 7 per cent in the Prairie Provinces and 6 per cent in the Maritime Provinces. In British Columbia, the decline in cow numbers was only 2 per cent, and in Ontario it was 3 per cent. The concentration of milk production in Central Canada continued. In 1966, farms in Quebec and Ontario had 71 per cent (1965: 70 per cent) of the national dairy herd and produced a similar proportion of the milk (Table 1).

Milk production in 1966 is likely to decline to 18.2 billion pounds, the lowest since 1960. This is about 120 million pounds or 0.7 per cent below that of 1965.

Utilization of milk on farms is decreasing. Farm use of milk, which consists of farm home consumption, farm butter and milk fed to livestock, declined in 1966 by approximately 90 million pounds to 1.65 billion pounds or 9 per cent of total production. Thus, the decline in the farm use of milk accounted for most of the reduction in overall milk production. Marketings of milk for use in factories declined fractionally to 16.59 billion pounds (1965: 16.61 billion pounds) (Tables 2 and 3).

Fluid sales at 5.24 billion pounds (1965: 5.21 billions adjusted) gained slightly in 1966. Total fluid milk usage, which is fluid sales and farm home use, is levelling off. Per capita consumption has fallen gradually from 401 pounds in 1956 to 320 pounds in 1965. In past years, total usage rose due to increases in population which more than offset any reduction in per capita consumption, but this apparently did not occur in 1966 (Table 3). There are many reasons for this development in the consumption of fluid milk products, including the rapid decline in the number of farmers who milk cows for their own use; the drop in birth rate which reduced consumption of milk (fewer mothers and babies); and the substitution of other products for fluid milk and cream.

For the fourth consecutive year, the production of creamery butter declined. This decrease occurred in the face of record producer returns. Output in 1966 is expected to be close to 330 million pounds (1965: 337 million). The decrease in production reflected a smaller total milk supply and a diversion of milk into other markets. Regionally, all provinces except British Columbia and Quebec reported smaller butter production (Table 4).

The current year will be the third in which domestic consumption exceeded production. Consumption of creamery butter is expected to total around 353 million pounds (1965: 356.5 million), which is 4 million pounds smaller than the recent peak consumption in 1964. Per capita consumption is likely to decline one half pound per person to 17.7 pounds in 1966 from 18.2 pounds in 1965 (Table 5).

The principal feature of the cheeese economy was the strong demand. The combined domestic consumption of all types of factory cheeses reached a record level of 170 million pounds in 1966 (1965: 160.4 million). Consumption of cheddar cheese is likely to total around 130 million pounds (1965: 123.3 million, adjusted). Exports of cheddar cheese have increased and may reach 35 million pounds in 1966

(1965: 31.6 million). In response to this demand, manufacturers of cheddar cheese produced 164 million pounds (1965: 158.1 million, adjusted) (Table 6).

The domestic demand for cheeses other than cheddar attracted record imports and increased Canadian production of fancy cheeses. The combined consumption of these varieties is estimated at approximately 40 million pounds in 1966 (1965: 37.1 million) (Table 7).

Concentrated products, notably evaporated milk and dry whole milk, are expected to utilize approximately 8 per cent less milk in 1966, compared with a year earlier. Production of evaporated milk may not exceed 308 million pounds (1965: 310 million) while consumption is expected to show little change from last year's 300 million pounds. Exports of evaporated milk are likely to reach or exceed 9 million pounds (1965: 6.6 million).

In response to rising demand, the production of condensed milk advanced to 22 million pounds (1965: 19.3 million) (Table 8).

Continuing sharp reductions in exports of dry whole milk to Venezuela induced curtailment of production. Canadian production in 1966 is estimated at 10 million pounds (1965: 21.9 million), of which approximately 8 millions will be sold abroad. The balance is used domestically (Table 8).

Less skim milk is being used on farms. Firstly, many producers who formerly separated milk and sold cream for butter manufacture have gone out of production. This accounts for the decline in the marketings of butterfat. Secondly, many former cream shippers have switched to selling whole milk for manufacturing. This conversion explains why the production of dry skim milk and casein could increase in the past two years while total milk production declined. The increased production of dry skim milk and casein in 1966 over that of 1965 represented the equivalent of 476 million pounds of milk in 1966 and 364 million in 1965, a total of 840 million pounds.

If production of dry skim milk reaches about 253 million pounds (1965: 222 million) and consumption increases to 153 million pounds (1965: 139 million), supplies available for export will be approximately 100 million pounds. Export shipments in 1966 are likely to exceed 70 million pounds (1965: 86.2 million), with the balance being added to stocks (Table 8).

Consumption of ice cream mix rose about 3 per cent from 1965 levels to 26.5 million gallons.

The Dairy Support Program, 1966-67—In March 1966, the dairy support program for the period April 1, 1966 to March 31, 1967 was announced. Changes were made in the program to improve producer returns, to stabilize milk production and to minimize the price of dairy products to consumers.

The program was designed to provide producer returns of $4.10, f.o.b. at the factory (1965-66: $3.30 per 100 pounds milk plus an average of 20 cents per hundredweight supplementary payment). The total cost of the program has been estimated at approximately $90 million for the current support year (1965-66: $50 million).

The program consists of the following measures: offer-to-purchase programs for creamery butter and cheddar cheese and a purchase program for dry skim milk; a payment of 85 cents per hundred pounds of manufactured milk, basis 3.5 per cent butterfat; and export aid.

The Agricultural Stabilization Board (A.S.B.) was authorized to continue the offer-to-purchase program for creamery butter at a price of 59 cents a pound (1965-66: 55 cents a pound), and for cheddar cheese at a price of 38 cents a pound (1965-66: 35 cents). In addition, the Agricultural Products Board was authorized to purchase spray process dry skim milk at a price not exceeding 18 cents a pound.

The A.S.B.'s selling prices can be adjusted during the course of the year. On September 9, 1966, the selling price was adjusted upward by two cents, from 59 cents to 61 cents a pound.

An amount of 10 cents of the authorized direct payment of 85 cents per hundred pounds of milk was retained for purposes of export aid, while 75 cents was paid directly to farmers, or the equivalent of 21.43 cents per pound of butterfat. This direct payment replaced a subsidy of 10.9 cents per pound of butterfat used in butter manufacture, which was paid in the preceding support year. A further change was that in 1966-67 all manufacturing milk and a portion of fluid surplus milk received the subsidy.

This subsidy payment prevented substantial changes in the relationship between producer and consumer prices. For example, cheddar cheese prices would have needed an increase of 9.4 cents per pound of cheddar cheese to permit the factory to pay 85 cents more per hundred pounds milk. For butter, the figure was 20.2 cents and for evaporated milk, two cents a pound.

On July 11, 1966, a bill to establish a Canadian Dairy Commission was passed by the Government of Canada. The bill became law when it was proclaimed, on October 31, 1966.

Outlook

An upswing in dairy cattle numbers may not begin before late 1967 or early 1968. This forecast is based on a study of previous cattle cycles. The number of dairy heifers was still decreasing in 1966, but the liquidation of dairy cows, which has prevailed since 1961, levelled off in mid-1966.

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In Eastern Canada, where the beef economy is based principally on dairy cattle, slaughter of cows fell off this year compared with the past two years, thus signaling the beginning of a new rebuilding program for dairy herds. In Western Canada, cow slaughter eased off somewhat later in the year than in Eastern Canada.

Studies of past trends have shown that the first year or two of a new cattle cycle largely stabilizes cattle numbers. However, the current position of the market for dairy products suggests firm prices while shortages of farm labor and alternative agricultural opportunities will affect producer decisions. Again, it is not possible to account for the effect that the 1967-68 dairy support program will have but it appears likely that milk production, after two years of decline, will show little change in 1967.

Consumption of milk in all forms in Canada will be favorably influenced by the expected additional inflow of tourists who visit Canada during Centennial Year. It appears likely, therefore, that the decline in per capita consumption of milk in all forms will be temporarily halted in 1967.

Total fluid milk consumption is likely to remain largely unchanged from 1966 levels. Lower consumption in farm homes is expected to be offset by gains in urban fluid sales.

Total consumption of factory cheese is expected to rise to 180 million pounds. Approximately one-fifth of this will be fancy cheeses, both of Canadian origin and imports. The total consumption of cheddar cheese could reach 135 million pounds. Exports of cheddar, mainly to Britain, are not expected to be larger than in 1966. Production of cheddar cheese is expected to approximate 170 million pounds, and Canadian production of other cheeses could reach 24 million pounds.

Ice cream is the one dairy product which may benefit most from additional tourist business in 1967. Barring unfavorable summer weather, sales are likely to climb by 4 per cent to 27.5 million gallons of ice cream mix.

The total production of condensed and evaporated milk is not expected to show any significant changes from 1966 levels.

The production of dry whole milk is largely determined by export demand, which has declined with the virtual loss of the market in Venezuela for this product. Since Canadian use of dry whole milk is limited to about 2 million pounds, production may dip below 10 million pounds in 1967, which would be the lowest production since 1942.

The higher value placed on solids-non-fat is expected to sustain the conversion of cream shippers in areas where it is practical to do so. Both additional marketings of solids-non-fat and a diversion of skimmed milk from casein into dry skimmed milk are likely to boost production of this product to about 265 million pounds. Domestic consumption of dry skimmed milk probably will be maintained at about 150 million pounds, indicating that substantial quantities will be available for export.

The amount of creamery butter produced is influenced by the level of total milk production. The above forecasts of production of dairy products have been estimated to utilize 10.9 billion pounds of milk. Therefore, since little change is expected in total milk production in 1967, butter output will likely be similar to that of 1966. Under present market conditions, consumption of butter is expected to be maintained close to the level of 1966.

TABLE 1.—THE CANADIAN DAIRY HERD, TOTAL AND BY PROVINCE, 1954-66, AS OF JUNE 1

	Average 1954–58	Average 1959–63	1964	1965	1966
	thousand head				
Prince Edward Island	43.2	39.1	37.0	39.0	37.0
Nova Scotia	79.1	63.7	59.0	57.0	54.0
New Brunswick	84.2	66.6	58.0	56.0	51.0
Maritimes	206.5	169.4	154.0	152.0	142.0
Quebec	1,035.3	1,020.5	1,060.0	1,086.0	1,082.0
Ontario	1,009.8	970.9	954.0	943.0	917.0
Manitoba	217.7	193.3	182.0	176.0	167.0
Saskatchewan	272.2	231.6	193.0	178.0	160.0
Alberta	281.1	278.8	274.0	262.0	245.0
Prairies	771.0	703.7	649.0	616.0	572.0
British Columbia	88.8	90.8	89.0	88.0	86.0
Canada	3,111.4	2,955.3	2,906.0	2,885.0	2,799.0

TABLE 2.—MILK PRODUCTION AND UTILIZATION IN CANADA, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966
	million pounds of milk				
Consumed on farms	1,080	972	925	879	840
Farm made butter	328	202	115	88	80
Fed to livestock	659	818	823	775	730
Total farm use	2,067	1,992	1,863	1,742	1,650
Fluid sales	5,000	5,003	5,115	5,210	5,240
Creamery butter	7,369	8,011	8,231	7,889	7,720
Cheddar cheese	969	1,306	1,591	1,739	1,835
Other cheese	94	142	187	225	270
Cottage cheese[a]	12	21	28	30	35
Concentrated milk	927	1,016	1,000	984	900
Ice Cream	564	612[b]	490[b]	537[b]	590[b]
Total factory use	14,935	16,111	16,642	16,614	16,590
Total milk production	17,002	18,103	18,505	18,356	18,240

[a]Milk equivalent of butterfat in creamed cottage cheese.
[b]Excludes the milk equivalent of butter used in ice cream mix, which was (in million pounds):

Average 1959–62	1964	1965	1966
118	349	336	310

TABLE 3.—MILK: PERCENTAGE UTILIZATION IN CANADA, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966
	per cent of total milk production				
Consumed on farms	6.4	5.4	5.0	4.8	4.6
Farm made butter	1.9	1.1	0.6	0.5	0.4
Fed to livestock	3.9	4.5	4.5	4.2	4.0
Total farm use	12.2	11.0	10.1	9.5	9.0
Fluid sales	29.4	27.6	27.6	28.4	28.7
Creamery butter	43.3	44.3	44.5	43.0	42.3
Cheddar cheese	5.7	7.2	8.6	9.5	10.2
Other cheese	0.5	0.8	1.0	1.2	1.5
Cottage cheese	0.1[a]	0.1	0.2	0.2	0.2
Concentrated milk	5.5	5.6	5.4	5.3	4.9
Ice cream	3.3	3.4	2.6[b]	2.9[b]	3.2[b]
Total factory use	87.8	89.0	89.9	90.5	91.0
Total milk production	100.0	100.0	100.0	100.0	100.0

[a,b]See footnotes to Table 2.

TABLE 4.—CREAMERY BUTTER PRODUCTION IN CANADA BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965 (Preliminary)	1966 (Estimated)
	thousand pounds				
Canada	314,896	342,351	351,742	337,121	330,000
Prince Edward Island	5,864	5,643	5,726	5,880	5,000
Nova Scotia	5,506	3,780	3,012	3,024	3,000
New Brunswick	8,473	7,226	6,426	5,697	5,000
Quebec	124,503	134,627	133,474	131,611	136,000
Ontario	82,774	94,499	109,731	107,664	104,000
Manitoba	24,720	25,238	23,563	21,806	19,000
Saskatchewan	26,937	27,850	25,224	21,700	18,000
Alberta	31,683	37,996	39,818	36,562	35,000
British Columbia	4,436	5,492	4,768	3,177	5,000

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TABLE 5.—BUTTER: SUPPLIES AND DISTRIBUTION, CANADA, 1954-66

	Average 1954–58	Average 1959–63	1964	1965 (Preliminary)	1966 (Estimated)
			thousand pounds		
Creamery butter					
Stocks at January 1	84,191	153,575	219,268	100,021	75,308
Production	314,896	342,351	351,742	337,121	330,000
Imports	14	2	—	—	—
Total supply	399,091	495,928	571,010	437,142	405,308
Exports	1,934	6,578	113,666	5,379	600
Stocks at December 31	88,687	178,680	100,021	75,308	51,708
Domestic disappearance	308,470	310,670	357,323	356,455	353,000
Domestic disappearance of butter					
Creamery butter	308,470	310,670	357,323	356,455	353,000
Dairy butter	14,028	8,640	4,908	3,745	3,500
Whey butter	2,050	3,550	4,550	4,562	4,500
Total butter	324,548	322,860	366,781	364,762	361,000

TABLE 6.—CHEDDAR CHEESE: PRODUCTION IN CANADA BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965 (Preliminary)	1966 (Estimated)
			thousand pounds		
Canada	88,086	118,717	144,644	158,122	167,000
Prince Edward Island	820	1,018	1,614	1,702	1,900
New Brunswick	837	623	654	610	1,000[a]
Quebec	20,903	44,242	60,037	61,343	67,000
Ontario	61,664	69,480	77,899	90,042	92,200
Manitoba	1,059	574	944	1,145	1,400
Saskatchewan	74	102	—	—	—
Alberta	2,024	1,716	2,438	2,188	2,000
British Columbia	705	962	1,058	1,092	1,500

[a]Total for Nova Scotia and New Brunswick.

TABLE 7.—FACTORY CHEESE: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-66

	Average 1954–58	Average 1959–63	1964	1965 (Preliminary)	1966 (Estimated)
			thousand pounds		
Cheddar Cheese					
Stocks at January 1	41,081	54,105	57,720	58,466	61,616
Production	88,086	118,717	144,644	158,122	167,000
Imports	1,126	8	—	—	—
Total supply	130,293	172,830	202,364	216,588	228,616
Exports	10,682	21,935	30,328	31,643	35,000
Stocks at December 31	43,824	56,294	58,466	61,216	63,616
Domestic disappearance	75,787	94,601	113,570	123,329	130,000
Domestic disappearance of factory cheese					
Cheddar cheese	75,787	94,601	113,570	123,329	130,000
Other Canadian cheese	8,506	12,948	17,421	19,774	22,000
Other imported cheese	8,423	14,200	15,400	17,355	18,000
Total other cheese	16,929	27,148	32,821	37,129	40,000
Total factory cheese	92,716	121,749	146,391	160,458	170,000
			cents per pound for Canada First Grade, Quebec white cheddar		
Current receipts,[a] Montreal	31.0	32.7	36.5	39.1	42.0

[a]Price paid by wholesalers to manufacturers of cheddar cheese, Basis: delivered to Montreal.

TABLE 8.—CONCENTRATED MILK PRODUCTS: PRODUCTION, DISTRIBUTION AND PRICES, CANADA, 1954-66

	Average 1954–58	Average 1959–63	1964	1965 (Preliminary)	1966 (Estimated)
			thousand pounds		
Production					
Evaporated whole milk	300,506	309,878	314,705	310,136	308,000
Dry whole milk	20,605	27,508	22,330	21,947	10,000
Dry skimmed milk	111,157	185,963	203,047	222,157	253,000
Condensed whole milk	14,596	15,515	17,621	19,251	22,000
Exports					
Evaporated whole milk	5,142	4,978	18,091	6,654	9,000
Dry whole milk	16,322	23,647	18,449	19,653	8,000
Dry skimmed milk	13,883	60,574	42,139	86,258	70,000
Domestic disappearance					
Evaporated whole milk	293,721	306,076	302,546	299,633	300,000
Dry whole milk	4,220	4,009	2,976	3,795	2,000
Dry skimmed milk	86,743	136,671	153,406	139,415	153,000
Condensed whole milk	13,554	15,488	17,587	19,139	21,000
			dollars per case		
Wholesale price, Montreal[a]					
Evaporated whole milk	6.03	6.41	6.74	7.01	7.35
			cents per pound		
Dry whole milk	36.6	37.8	37.0	37.0	39.0
Dry skimmed milk (Spray process)	13.6	9.7	14.6	15.2	17.5

[a]Simple average of monthly average prices for each year.

TABLE 9.—ESTIMATED SUPPLY AND DEMAND FOR MILK, CANADA, 1959-65 AND FORECAST FOR 1966

	Average 1959–63	1964	1965	1966 (Forecast)
		thousands		
1. Population of Canada at June 1	18,211	19,237	19,571	19,919
		million pounds milk equivalent		
2. Stocks, at January 1	4,397	5,971	3,174	2,642
3. Production	18,103	18,505	18,356	18,240
4. Imports	147	168	194	200
5. Total Supply (2+3+4)	22,647	24,644	21,724	21,082
6. Domestic Human Consumption				
Fluid Milk and Cream	5,975	6,040	6,089	6,080
Butter	7,472	8,476	8,429	8,340
Cheese	1,348	1,627	1,787	1,870
Other Products	1,433	1,309	1,354	1,400
Total	16,228	17,452	17,659	17,690
7. Fed to Livestock	818	823	775	730
8. Exports	599	3,193	650	500
9. Total Disappearance (6+7+8)	17,645	21,468	19,084	18,920
10. Stocks at December 31 (Calculated) (5-9)	5,002	3,176	2,640	2,162
11. Actual Stocks, Main Products	5,011	3,174	2,642	

Situation and Outlook for 1967

Eggs—Egg market prices across Canada in 1966 have averaged about 9 cents per dozen more than in the same period a year earlier. The Canadian cumulative weighted price to producers for all grades at registered grading stations from January to November 19 was 38.6 cents compared with 29.7 cents for the same period in the previous year.

The main reason for stronger egg markets in 1966 was smaller egg supplies. Marketings of eggs at registered grading stations to November 19 totaled about 5.7 million cases, 2.9 per cent down from the same period in 1965. The decline in egg production in 1966 was due to lowered pullet placements in the first half of 1965, a period during which egg prices were exceptionally low. This subsequently resulted in egg supplies being very short during the last months of 1965, and this short supply situation prevailed during the first 11 months of 1966.

Rising egg prices since mid-1965 have encouraged a slightly higher trend in pullet chick placements during the past 16 months. As this year's larger crop of pullets gets into production this fall, egg marketings will begin to rise seasonally and will slightly exceed year earlier levels. By December, weekly egg gradings at registered stations will likely average about 5 per cent greater than a year earlier.

Egg marketings in 1967 will continue to rise because larger pullet chick placements this summer and fall will be coming into lay in early 1967. The 12 month cumulative total of pullet placements to October 31, 1966, was 24.4 million compared with 22.5 million for the same period a year earlier. Hatchery production of egg type chicks will also be up sharply in November and December from year earlier levels according to recent reports of eggs placed in incubators in registered hatcheries.

Due to increasing egg production, egg prices during late 1966 and early 1967 will likely average under the levels of a year earlier, but above those of 2 years ago. Feed costs for complete layer mash have increased a half cent per pound from last year, which represents the equivalent of about 2.5 cents per dozen. Thus, profit margins are likely to be under a year earlier during the heavy spring placement period. It appears that producers face in early 1967, lowered egg prices, compared with the high prices of 1966, coupled with increased production costs. This should temper any tendency to over-expansion in production in late 1967. Therefore, it is expected that egg markets during 1967 will probably reflect more price and supply stability than has been experienced in recent years.

One situation that has arisen during the strong market of the past year is the shortage of eggs for manufacturing egg products. Normally, the volume of eggs used for the production of egg products represents about 9 per cent of the volume of eggs marketed through registered grading stations. Production of egg products in registered plants from January to November 19 totaled 16.6 million pounds (equivalent to 425,000 cases of 30 dozen) compared with 22.5 million pounds in the same period in 1965. During 1966, both frozen and shell eggs were imported to help meet this demand. Up to November 19, shell egg imports totaled 224,000 cases compared with 30,000 cases in the same period last year. A high percentage of these were for breaking purposes, the bulk of which originated in the United States with token shipments from Mexico, South Africa and Great Britain. Frozen egg imports to the same date totaled about 4.5 million pounds (equivalent to 115,000 cases), and most of this came from Great Britain.

A most important factor contributing to the declining supply of breaking eggs has been the trend toward increased specialization of egg production with the resulting decline in the percentage of undergrades available. Since the demand for breaking stock constitutes an important segment of the egg market, it appears that in the future, special arrangements will be required if this demand is to be met from Canadian sources.

Poultry Meat—The rate of growth in the poultry meat industry accelerated in 1966, mostly due to the relative shortage and higher prices of red meats. As a result, the sharp expansion in poultry meat production across Canada this year has supplied a greater share of the total meat market. Poultry meat output in 1966 will total an estimated 770 million pounds, up 10 per cent from output in 1965, and 41 per cent from the 1959-63 average output of 545 million pounds.

In spite of the large increase in production, producer price levels in 1966 were slightly above year earlier levels due to the strong overall demand for meats. Major markets were on a firm price basis as the increased output was fairly evenly distributed throughout the country and throughout the year.

Domestic production accounted for practically all of Canada's retail poultry meat sales. Imports of poultry meat during 1966 will total about 10 million pounds, down slightly from the previous year. Exports, consisting of small shipments of turkey, were less than 1 million pounds. Per capita consumption of poultry meat, eviscerated basis, in 1966 will likely rise to about 39 pounds, up 3 pounds from 1965.

Chickens—Chicken production in 1966 will total an estimated 550 million pounds, eviscerated basis, consisting of 480 million pounds of broilers and roaster chicken, and of 70 million pounds of fowl. The rise in chicken production from 1965 is due almost entirely to a 13 per cent rise in the output of broiler chickens.

Broiler chicken marketings at registered stations from January to November 19 totaled about 122 million head, about 14 million more than in the same period of 1965. These birds represented the eviscerated equivalent of 374 million pounds. The expansion of the broiler chicken industry throughout Western Canada and the Maritimes was quite outstanding and established the broiler industry on a national basis.

Broiler chicken producers have benefited from the reduced supplies and higher prices of red meats during the past 18 months. Since August, 1965, when the drop in hog production became apparent, live broiler markets in Canada have averaged 1 to 4 cents a pound more than a year earlier. The price margin over a year earlier had narrowed to 1 cent in mid-November with chicken quoted at 20.5 cents live weight at Toronto and London, 21.5 cents at Montreal, and 22 cents at Vancouver. The higher and steady trend of prices has been maintained in spite of the 13 per cent rise in marketings. Most of this year's expansion in broiler marketings occurred throughout Western Canada, Quebec and the Maritimes with increases averaging about 17 per cent compared with Ontario's 6 per cent rise.

Broiler chick hatcheries have had to supplement the domestic supply of hatching eggs with much larger imports of hatching eggs from the United States during 1966. Imports of commercial type hatching eggs between January and October totaled 16 million compared with 8.2 million in the same period last year. However, broiler breeder flocks in Canada were also enlarged and supplied broiler hatcheries with about 160 million eggs during January to October period, up 10 million from the corresponding year earlier period. Broiler breeders on September 1 totaled about 1.3 million head, up 11 per cent from a year ago.

By November 1, broiler breeders in Canada numbered 1.3 million head, equal to the size of the supply flock the same date last year. In addition, pullet chicks placed for supply flock replacement in the 6 months prior to November 5 totaled 1.3 million, also equal to the corresponding period in 1965. Supply flock numbers are down slightly from a year ago in all provinces except Ontario, in which numbers are up moderately from last year.

The rate of growth of broiler production in 1967 will likely slow down from the growth rate in 1966 because profit prospects are not as favorable as during the past year. Broiler feeding costs have risen sharply during the past year, due principally to higher protein feed prices. Broiler finisher in Ontario in early September was quoted at $105 per ton wholesale, up $12 from the same date in 1965. Higher broiler chick prices will also reflect increased supply flock and hatchery operating costs. Building construction and equipment costs are also up. In addition, broilers will face more competition from larger supplies of hogs this fall and during the first half of 1967. However, the prospects of smaller beef production will partly offset the effects of more pork. In view of the narrowing profit margins, broiler expansion will likely proceed more slowly until broiler prices rise to reflect higher marketing and production cost levels.

Turkeys—Turkey production in 1966 will total about 210 million pounds, eviscerated basis, about 12 per cent more than in 1965. The expansion in turkey output has been confined to Eastern Canada and British Columbia. Spring placements of poults in the Prairie region were down from the previous year by about 3 per cent. Most of the reduction in the Prairie Provinces was due to a proportionately greater decline in the number of turkey producers, although fewer producers are raising more birds per farm each year. In Eastern Canada and British Columbia, confinement growing of the broiler turkey on a year-round basis has been expanding rapidly. Broiler production has increased about 30 per cent this year compared with a 16 per cent rise in production of heavy-weight birds in those areas.

Live turkey prices in mid-November were 1 to 2 cents under those of a year earlier and appear adjusted to this year's record turkey crop. In contrast to last year when prices strengthened during the fall by 2 cents on broilers and toms and by 5 cents on medium-weight hens, prices this fall will likely hold about present levels for broilers and heavy toms but could advance further on medium weight hens. This is due to the fact that 1,600,000 heavy female poults in Ontario were diverted to broiler production last spring, and consequently marketings of medium weights will be up very little from year ago levels. Fresh supplies of medium weights may actually be short in some areas prior to Christmas.

The outlook for turkeys is very similar to the situation confronting broiler chicken producers. That is, profit prospects are less favorable for 1967 than in the past year because production costs are up and the price outlook is less strong than a year ago. Complete turkey grower feeds in Ontario in September were costing about $10 per ton more than a year earlier. As was the case with broiler chick prices, higher feed costs will tend to raise poult prices as well as ration costs.

However, broiler turkey output will likely continue to rise in 1967 because more housing capacity has been added. There have been reports of many new turkey barns in Ontario and British Columbia. Turkey breeder numbers in Canada on November 1 totaled 194,000 head, up by 48,000 from the same date last year.

Outlook to 1970

Eggs—Egg consumption per person has remained steady since 1963 after having declined for 6 years prior to that time and the level trend in per capita consumption seems likely to continue. Therefore, the total demand for eggs will increase at about the same pace as population growth. Total egg consumption will likely reach 470 million dozen by 1970. By that year, it is also expected that average output per layer will have advanced from 200 to 210 eggs per year. Hence, about 26 to 27 million layers will be required to produce Canada's shell egg requirements by 1970, about 1 to 2 million more than are in laying flocks at the present time.

Poultry Meat—Poultry meat prices will at least maintain and may further improve their competitive position in relation to red meats. If beef and pork prices in Canada continue at near their present levels relative to poultry meat prices, then a further rise in per capita use of poultry seems assured. The strong outlook for cash sales of wheat and feed grains in Western Canada could place poultry feeding costs in an even more favorable relative position compared with red meats because of the better feed conversion of poultry. Relatively favorable consumer price levels for turkeys and chickens will result in a stronger demand for these products and poultry meat producers appear prepared and willing to satisfy the growing market needs. It is estimated that total production of poultry meat by 1970 will approximate 1 billion pounds.

Chicken Broilers—It is anticipated that by 1970 the per capita consumption of chickens will rise to about 32 pounds compared with 26 pounds last year. This then means that there will be 700 million pounds of chicken required by 1970 as compared with 443 million last year.

Turkey—By 1970, per capita turkey consumption will probably rise to about 12 pounds from 9.5 pounds last year. Total turkey broiler consumption will likely double, and developments in further processing and institutional feeding will expand the demand for heavies. On this basis, by 1970, turkey broiler production will grow to about 12 million birds while the production of heavies will rise to 10 million, equivalent to a total of about 265 million pounds. Seasonality of production in turkeys will become less marked because turkey broilers will constitute an increasing proportion of total production. In 1965, broilers made up 30 per cent of the total production compared with only 17 per cent in 1961. This trend will probably continue.

Organizational Changes in the Industry—The developments that will occur in the area of production and marketing organizations within the turkey and chicken broiler industry cannot be more than surmised. It would appear that a few private and co-operative marketing organizations, embracing breeder flocks, hatcheries, feed suppliers, growers, processors, etc., will control a major share of the marketing volume in turkeys and chicken meat. The role of the grower in the industry will be more closely planned and regulated than has been the case in the past. Growers will likely retain ownership of the major portion of the production facilities, but they will be planning their production in consultation with their marketing organization. In the future, marketing arrangements will be more closely co-ordinated with consumer demand than has been the situation in the past.

Poultry meat producers in the various provinces have taken different approaches to the problem of supply and price stabilization in their industry. In British Columbia and in Ontario, broiler chicken producer marketing boards have adopted the technique of quotas to coordinate broiler production with the forecast demand. These boards have also been active in attempting to standardize industry practices with respect to weighing conditions, penalties for undergrades and rejects, catching and cartage charges and other matters of grower concern. The British Columbia board has the power to set minimum prices, while in Ontario, prices are negotiated between the board and the processor representatives. The other terms of contracted production are negotiated privately between the grower and his processor and/or supplier.

In the past year, broiler chicken boards of one kind or another have also been established in all broiler producing provinces except Manitoba. Turkey boards already exist in Ontario and British Columbia, with the British Columbia board having quota control powers. An egg and fowl marketing board is operating in Ontario and in Quebec. The specific powers and operational methods of these new producer boards are still rather fluid. However, except for the British Columbia turkey board and the Alberta and Saskatchewan broiler chicken marketing boards, these boards have not adopted quota control, but they are empowered to register industry members and in some cases, to negotiate minimum prices with processors. Most boards have also adopted a system of check off from marketings in order to help finance promotional programs and board operating expenses.

TABLE 1.—CHICKS AND POULTS PLACED ON FARMS IN CANADA, BY MONTH, 1963-66

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
						thousands							
Egg Production Chicks													
1963	1,047	1,435	4,037	4,988	4,480	3,426	1,087	817	1,046	917	1,013	1,578	25,871
1964	1,383	2,106	4,346	5,389	4,744	2,326	1,087	804	908	979	986	992	26,050
1965	1,168	1,317	2,891	4,396	4,178	2,237	1,182	1,025	950	1,076	1,089	1,259	22,768
1966	1,311	1,663	3,161	3,946	3,853	2,516	1,461	1,342	1,423	1,385			
Broiler Chicks													
1963	7,737	8,028	10,945	9,357	9,978	12,388	9,677	8,496	9,912	7,451	8,159	11,529	113,658
1964	7,786	9,372	13,062	10,133	10,389	13,393	9,517	9,457	11,614	8,069	8,277	12,636	123,804
1965	10,026	9,861	11,676	12,103	12,810	12,383	11,857	11,306	10,845	10,217	10,802	11,178	135,064
1966	11,354	11,351	13,109	13,687	14,735	14,278	13,555	13,310	12,443	12,401			
Broiler Weight Turkey Poults													
1963	268	243	298	301	291	709	573	478	525	399	438	645	5,168
1964	299	325	301	387	568	750	749	737	682	532	491	460	6,281
1965	544	573	684	548	603	773	797	715	633	706	854	841	8,271
1966	578	704	733	810	690	962	1,081	999	902	800			
Heavy Weight Turkey Poults													
1963	157	545	1,812	1,989	1,738	1,129	226	37	23	7	36	92	7,791
1964	174	364	1,645	2,206	1,771	1,064	358	68	14	34	69	104	7,871
1965	205	537	1,672	2,049	1,912	959	454	113	36	57	93	134	8,221
1966	245	575	1,834	2,290	2,007	972	495	105	62	61			

TABLE 2.—EGG TYPE CHICK PLACEMENTS IN CANADA, WESTERN CANADA AND EASTERN CANADA, BY QUARTERS, 1962 TO 1966

	1962	1963	1964	1965	1966[a]
			millions		
Canada					
January-March	7.2	6.5	7.8	5.4	6.2
April-June	12.6	12.9	12.4	10.8	10.3
July-September	2.0	3.0	2.8	3.2	4.2
October-December	2.4	3.5	3.0	3.4	4.3
Year	24.2	25.9	26.0	22.8	25.0
Western Canada					
January-March	3.0	2.9	3.3	2.3	2.6
April-June	6.1	6.6	6.2	5.5	5.2
July-September	0.7	0.9	0.9	0.9	1.4
October-December	0.9	1.2	1.0	1.2	1.4
Year	10.7	11.6	11.4	9.9	10.6
Eastern Canada					
January-March	4.2	3.6	4.5	3.1	3.6
April-June	6.5	6.3	6.2	5.3	5.1
July-September	1.3	2.1	1.9	2.3	2.8
October-December	1.5	2.3	2.0	2.2	2.9
Year	13.5	14.3	14.6	12.9	14.4

[a] The last quarter is estimated.

TABLE 3.—EGGS: PRODUCTION IN CANADA, BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
	thousand dozen				
Canada	411,331	433,177	437,906	432,795	425,000
Prince Edward Island	6,233	4,446	4,079	3,944	4,000
Nova Scotia	17,182	18,779	18,278	18,450	20,000
New Brunswick	8,504	8,654	9,713	9,189	9,000
Quebec	60,830	65,630	71,520	77,013	75,000
Ontario	166,373	180,961	177,023	170,701	160,000
Manitoba	34,800	37,307	42,878	42,584	41,000
Saskatchewan	38,467	33,794	28,089	25,379	25,000
Alberta	46,367	41,891	38,574	36,654	38,000
British Columbia	32,575	41,715	47,752	48,881	53,000

TABLE 4.—EGGS: SUPPLIES AND DISTRIBUTION, CANADA, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
	thousand dozen				
Stocks at January 1	8,568	5,724	4,260	6,900	5,250
Production: total	410,574	433,177	437,906	432,795	425,000
Imports[a]	2,486	4,292	2,114	5,861	12,000
Total supply	421,628	443,193	444,280	445,556	442,250
Exports	8,853	10,073	2,374	1,117	1,000
Used for hatching	12,313	16,638	20,186	20,627	23,000
Stocks at December 31	9,096	4,998	6,900	5,250	5,250
Apparent use as food	391,366	411,484	414,820	418,562	413,000

[a]Includes eggs for hatching.

TABLE 5.—EGGS: COMMERCIAL MOVEMENT, 1957-66

	Receipts at registered stations	Inspected for exports	Inspected shell egg imports[a]	Frozen in registered plants	Movement to consumer outlets[b]
	thousand cases of 30 dozen				
1957	6,778	326	—	657	5,818
1958	6,735	439	1	435	5,849
1959	7,370	574	22	736	6,095
1960	6,976	287	4	559	6,142
1961	6,886	164	51	442	6,332
1962	7,097	30	56	546	6,576
1963	6,964	31	190	468	6,655
1964	7,796	50	17	595	7,167
1965	7,771	14	81	490	7,348
1965-Jan.-Nov. 19	6,854	7	72	472	6,447
1966-Jan.-Nov. 19[c]	6,658	6	224	315	6,561

[a]Does not include eggs for hatching.
[b]Adjusted for change in storage stocks.
[c]Preliminary.

TABLE 6.—AVERAGE WEIGHTED EGG PRICES TO PRODUCERS FOR CANADA GRADE A LARGE SIZE

	Last Week of the Month						Cumulative From October 1					
	1960–61	61–62	62–63	63–64	64–65	65–66	1960–61	61–62	62–63	63–64	64–65	65–66
	cents per dozen						cents per dozen					
October	47.5	47.1	37.8	44.3	34.2	50.7	46.9	47.2	42.7	47.0	30.9	50.0
November	45.4	42.6	46.8	37.9	26.7	51.7	46.0	46.6	43.6	43.3	30.2	49.1
December	33.6	28.3	33.8	32.4	29.0	42.6	41.6	40.1	40.0	40.4	29.8	48.6
January	26.8	28.8	28.4	30.3	21.8	34.4	37.3	36.7	37.0	37.8	27.9	44.8
February	31.1	31.0	37.7	31.1	25.8	37.2	35.6	35.2	36.0	36.0	27.2	43.2
March	29.7	32.0	34.8	28.9	27.2	43.5	34.7	34.5	36.4	35.0	27.1	42.6
April	28.0	28.6	33.7	26.9	29.4	43.2	33.5	33.9	36.4	33.9	27.4	42.7
May	29.4	26.2	32.2	23.1	28.8	35.6	33.0	33.0	35.9	32.4	27.7	42.1
June	32.4	28.5	30.8	25.9	29.2	34.8	32.9	32.2	35.5	31.7	27.7	41.2
July	42.0	29.4	39.1	30.2	32.2	44.4	33.5	31.8	35.6	31.3	28.0	41.0
August	43.5	40.1	41.6	38.8	39.6	50.8	33.8	32.5	36.0	31.7	28.8	41.7
September	44.1	41.0	50.1	30.7	47.3	50.2	34.7	33.0	36.8	32.0	29.7	42.4

TABLE 7.—EGGS: MONTHLY WEIGHTED AVERAGE PRICES RECEIVED BY FARMERS FOR ALL GRADES OF EGGS AT REGISTERED EGG GRADING STATIONS, CANADA, 1958-62 TO 1966

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	cents per dozen												
Average 1958–62	26	28	31	30	27	27	30	34	35	36	36	29	31
1963	27	33	36	34	30	30	33	34	42	41	34	31	34
1964	28	29	28	26	22	22	24	30	30	26	25	25	26
1965	22	22	25	28	27	26	27	33	37	46	45	44	31
1966	32	34	38	41	36	32	35	44	45	45	46		

TABLE 8.—FOWL AND CHICKEN: PRODUCTION IN CANADA, BY PROVINCE, 1954-66[a]

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
	thousand pounds eviscerated weight basis				
Canada	318,589	400,895	483,349	502,547	550,000
Prince Edward Island	2,868	1,563	898	1,048	1,000
Nova Scotia	7,911	12,533	15,505	15,078	18,000
New Brunswick	5,878	5,211	5,420	7,406	10,000
Quebec	61,765	112,710	155,987	173,006	190,000
Ontario	139,845	152,780	170,776	179,523	190,000
Manitoba	24,164	24,725	27,688	27,066	31,000
Saskatchewan	24,317	21,710	24,391	20,508	22,000
Alberta	29,858	36,721	47,114	42,560	46,000
British Columbia	21,983	32,942	35,570	36,352	42,000

[a]Total production, includes output not marketed through registered processing plants.

TABLE 9.—FOWL AND CHICKEN: SUPPLIES AND DISTRIBUTION, CANADA, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
	thousand pounds eviscerated weight basis				
Stocks at January 1	17,907	17,031	20,240	18,882	17,798
Production[a]	318,589	400,895	483,349	502,547	550,000
Imports	6,308	8,742	5,222	7,896	8,000
Total supply	342,804	426,668	508,811	529,325	575,798
Exports	303	628	451	1,015	—
Stocks at December 31	19,305	15,932	18,882	17,798	20,798
Domestic disappearance	323,196	410,108	489,478	510,512	555,000

[a]Total production, includes output not marketed through registered processing plants.

TABLE 10.—POULTRY: MARKETING THROUGH REGISTERED PROCESSING PLANTS, BY KINDS IN CANADA, 1959-66

	Chicken	Fowl	Turkey	Duck and Goose	Total
	thousand pounds eviscerated weight basis				
Average 1959–63	264,905	42,104	115,131	3,385	425,525
1963	317,836	38,760	123,080	3,447	483,123
1964	348,008	37,524	140,373	4,152	530,057
1965	376,005	36,914	163,230	4,262	580,411
1965-Jan.-Nov. 19	373,661	33,948	155,632	3,105	566,346
1966-Jan.-Nov. 19	331,180	32,870	136,257	3,182	503,489

TABLE 11.—BROILERS: MONTHLY AVERAGE PRICES PAID TO PRODUCERS FOR LIVE BROILERS AT TORONTO, 1959-66

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	cents per pound												
Average 1959–61	18	19	19	17	17	19	19	18	16	16	16	17	18
1962	16	16	17	19	17	19	20	20	20	20	19	19	18
1963	20	20	19	19	19	18	20	20	20	18	17	19	19
1964	18	18	18	16	17	18	20	18	17	17	16	17	18
1965	18	19	19	18	17	19	19	19	20	20	20	20	19
1966	20	21	21	21	20	20	20	20	20	20	20		

TABLE 12.—LIGHT FOWL: MONTHLY AVERAGE PRICES PAID TO PRODUCERS FOR LIVE NO. 1 AT TORONTO, 1957-66

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	cents per pound												
Average 1957–61	12	12	13	13	13	12	12	12	11	11	11	11	12
1962	8	7	7	9	10	10	10	10	10	10	10	11	9
1963	11	12	14	14	14	14	13	12	12	11	11	11	12
1964	11	10	9	10	9	9	9	9	9	8	8	9	9
1965	8	8	8	9	9	9	10	10	10	10	10	10	9
1966	10	11	12	14	14	15	13	12	12	10	10		

TABLE 13.—TURKEY: PRODUCTION IN CANADA, BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
	thousand pounds eviscerated weight basis				
Canada	87,602	135,112	162,448	186,299	210,000
Prince Edward Island	241	255	122	127	100
Nova Scotia	1,024	652	791	1,678	1,500
New Brunswick	911	491	419	1,062	1,400
Quebec	13,565	16,312	20,008	27,869	35,000
Ontario	25,745	54,548	82,000	89,884	105,000
Manitoba	12,785	18,756	20,278	22,553	23,000
Saskatchewan	13,878	18,642	14,004	14,941	13,000
Alberta	12,435	17,028	15,353	17,154	17,000
British Columbia	7,018	8,428	9,473	11,031	14,000

TABLE 14.—TURKEY: SUPPLIES AND DISTRIBUTION, CANADA, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
	thousand pounds eviscerated weight basis				
Stocks at January 1	10,694	17,575	16,206	21,845	24,195
Production[a]	87,602	135,112	162,448	186,299	210,000
Imports	7,331	2,449	9,909	3,496	500
Total supply	105,627	155,136	188,563	211,640	243,695
Exports	19	76	134	800	750
Stocks at December 31	13,164	17,207	21,845	24,195	23,945
Domestic disappearance	92,444	137,853	166,584	186,645	210,000

[a]Total production, includes output not marketed through registered processing plants.

TABLE 15.—TURKEYS: MONTHLY AVERAGE PRICES PAID TO PRODUCERS FOR LIVE NO. 1 AT LONDON, ONTARIO, 1963-66

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	cents per pound												
1963													
12 and under	22	22	23	24	24	25	25	25	25	26	26	26	24
Over 12 and under 20	24	24	24	24	24	25	25	25	25	26	27	28	25
20 and over	23	23	23	23	23	24	24	23	23	23	22	24	23
1964													
12 and under	23	23	24	24	24	24	24	24	24	24	23	23	24
Over 12 and under 20	28	26	26	26	26	26	25	25	25	25	26	26	26
20 and over	24	28	28	28	31	33	28	25	24	24	24	25	27
1965													
12 and under	22	22	22	22	23	23	23	23	24	24	25	25	23
Over 12 and under 20	24	24	24	24	24	24	24	24	26	27	29	30	25
20 and over	26	27	27	26	27	27	25	23	23	24	24	25	25
1966													
12 and under	24	25	24	24	23	22	22	22	23	23	23		
Over 12 and under 20	29	27	25	24	24	24	23	24	25	26	27		
20 and over	26	26	26	26	26	26	25	23	23	23	23		

FRUITS, VEGETABLES, HONEY AND MAPLE PRODUCTS

DEVELOPMENTS AND TRENDS

There has been a further development and expansion of fruit and vegetable marketing groups during the past year. The new boards were organized for the orderly marketing of a particular commodity while others were granted the power to extend their activity in the marketing of additional fruits or vegetables. In Ontario, a Fresh Grape Marketing Board was established and the Peach Board activity was extended to cover the marketing of fresh plums, pears and prunes. The Onion Marketing Board was also revived in this province. The Alberta Potato Commission was created and it is active in promotion work. The activity of the Manitoba Potato Commission was expanded to include eight other vegetables. These developments should result in further improvement in the continuity of supply, consistent quality and volume of produce required by large retail outlets and provide a better channel for the individual producer to market his produce.

Surveys conducted by the Canada Department of Agriculture at the retail and wholesale levels of the trade across Canada on the quality of potatoes suggest that an increasing proportion of potatoes are being marketed in the Canada No. 1 Grade. In the 1966 potato survey, of those potatoes marked Canada No. 1, the percentage of lots meeting the Grade standards had risen to 92.2 per cent, compared with 89.8 per cent in the previous year. Most of the improvement was due to fewer permanent defects, such as size, mechanical injury and sunburn. However, to obtain greater consumer satisfaction more attention must be focused on improving uniformity of size, better shape and general appearance of potatoes.

In recent years there has been considerable development in the mechanization of fruit and vegetable harvesting operations. Interest is increasing in the possibility of extending this to additional crops for processing. Although no specific data are available on the extent of their use, harvesting machines and equipment are now being developed. Some of this machinery consists of devices to shake the crop off fruit trees and catch the products on soft surfaces for conveyance to bulk bins which are in turn handled by fork lift-equipped tractors. Another approach is employed in equipment designed to permit hand picked fruit to fall gently to ground level thereby increasing labour efficiency. Finally there is equipment to carry the pickers slowly over or along a part of the crops to be harvested. One of the main problems in developing such equipment is the avoidance of damage.

To fully utilize such techniques, new varieties with uniform ripening qualities and new processing characteristics will be required. It would also seem that higher investments of capital per farm will be necessary. These factors may lead to larger farm and orchard units in the future.

APPLES

Situation

Preliminary estimates of apple production indicate that the current crop of about 20 million bushels is

almost 11 per cent less than last year (22.3 million bu.), which was the second largest ever produced in Canada. Because of winter damage, yields in British Columbia were below normal last year but the present crop is more in line with the 1961-65 average. Reduced production in Nova Scotia this year about offset an increase in Ontario and the Quebec crop is much smaller than the record of last year. As a result, the domestic fresh fruit market should be able to absorb the Ontario and Quebec crops without difficulty.

During the 1965-66 crop year, average wholesale prices, basis Ontario Fancy McIntosh at Toronto averaged $3.16 per bushel. Comparative figures for the similar grade during 1964-65 were $3.30 per bushel.

The 1966 U.S. crop is currently forecast at about 130 million bushels, almost 5 per cent less than last year but about 4 per cent above average. This will result in a North American crop of almost 150 million bushels or about 9 million bushels less than last year. Not only overall size of the United States apple crop but the regional outturn affects Canadian sales to that country. The Washington crop has recovered from last year and California production has increased substantially, factors which could affect the important market for Canadian Macs in Southern California.

The combined production of the 1966 apple crop in England and Wales, France, West Germany and Italy is 274 million bushels or 29 million bushels greater than last year. Despite a decrease of 5.7 million bushels in England and Wales, the target crops in the three latter countries were more than sufficient to offset the the decline in North America.

Outlook

The volume of foreign trade in fresh apples has been maintained in most recent years, but increasing production in Europe of North American varieties is expected to provide much keener competition in the future. However, there is evidence of a reopening of some old markets and an expanding of some smaller markets in other parts of the world. For example, shipments of Canadian apples are being made to Brazil this season after a lengthy period during which it was not possible to sell to that market owing to prohibitive import taxes. A transfer of fresh apples by Brazil from the special to the general category in the tariff has made resumption of this trade possible.

French apples, mostly Golden Delicious, will have taken a larger share of the British pre-Christmas import licenses than last season, possibly in excess of one-quarter of the July-December quota. France has increased her shipments of apples to Britain steadily, from 2,000 tons in 1962-63 to 8,500 tons in 1965-66, the most pronounced being in the pre-Christmas period when the British market is most attractive to Canadian exporters. This competition is expected to grow in future years—and if Canadian exporters are to maintain their position on the United Kingdom market, extreme care must be exercised in the selection of apples for export.

No shortage of land suitable for apple growing exists in Ontario. Accordingly, it would seem reasonable to expect apple production to expand in proportion to population increases in Ontario and Quebec. If export markets are to be more competitive there will be that much less incentive for Ontario growers to plant orchards for the overseas trade. In Quebec the heavy apple plantings of some years ago are now bearing fruit. Recent data indicate that apple trees under 6 years make up about 16 per cent of all apple trees in Quebec so that crop potential is now relatively stable.

After a long period of uncertainty due to the loss of the British market during the war and post war period the Nova Scotia industry has been rebuilt with more emphasis on processing. In addition, fresh apples are shipped to Britain and the Continent and sold throughout the Maritimes. Indications are that plantings and production may increase.

Although apple trees were less severely damaged than tender tree fruits in the Okanagan in 1964-65, a quantitative assessment of future trends will have to await a further detailed tree census. It may be that British Columbia fruit growers will turn more to apples and place less emphasis on tender tree fruits except in the most favored areas. If this happens, some significant increase in future Okanagan apple production will be in prospect.

No significant changes have occurred to alter the long term forecast made last year. At that time, domestic requirements of both fresh and processed apples in Canada were forecast to reach 19 million bushels by 1970. Assuming a continuation of present levels of exports of fresh and processed apples in 1970 of some 3 to 4 million bushels, this would result in total requirements of Canadian apples of 22 to 23 million bushels.

POTATOES

Situation

The November forecast for the 1966 potato crop in Canada was 57 million cwt. and this represents the highest annual production obtained during the past 4 decades. Planted acreage and yield increased by 17 and 12 per cent respectively. The increased output of potatoes is a reflection of 2 years of firm potato prices. The annual average wholesale price for P.E.I. potatoes at Toronto during the 1964-65 crop year was $4.87 per cwt. The comparable figure for the 1965-66 crop year was $3.93 per cwt.

In recent years the Maritime provinces have produced about 40 per cent of the Canadian crop, with about 20 per cent in each of Quebec, Ontario and the West. According to the September forecast, the potato crop is up 15 per cent in the Maritimes, 4 per cent in Quebec, 45 per cent in Ontario, and 9 per cent in the western provinces.

The acreage entered for certification in Canada in 1966 was 86 thousand, the highest on record, and represents a 25 per cent increase over last year. The price to the grower of P.E.I. certified Cobblers and Sebagos averaged $3.79 and $2.87 per cwt. respectively for 29 weeks in 1965-66. The substantial increase in good storage facilities in Canada over the past few years has had a stabilizing effect on the price structure of potatoes in Canada.

The size of the crop in the United States indirectly affects the Canadian potato market. Prospects for the U.S. fall potato crop at November this year were 219 million cwt. or almost 3 per cent greater than last year which represented the highest annual production obtained during the past decade. The combined production for Canada and the United States at 276 million cwt. will thus be 6 per cent above that of 1965.

In most recent years larger quantities of available supplies have been utilized for processing in Canada and now requires over 10 per cent of the crop. A similar situation prevails in the United States and during the 1964 season 33 per cent of the crop was processed. The recent settlement of patent litigation will place further development of processing of instant mash potatoes on a purely economic basis.

The volume of total exports of both table potatoes and seed now accounts on the average for about 10 per cent of production. Exports of seed and table potatoes during the crop year 1965-66 were well below the total of the previous year when there were unusually large sales to the United States.

Outlook

A downward pressure on Canadian table potato prices occurred during the summer and early fall months. Recent Canadian forecasts of the crop have been revised upward and a similar upward revision in the United States suggests that prices in Canada will average below last year. Restraint on production when markets look particularly favorable is very important, from the standpoint of increased returns to the grower.

The export demand for table potatoes fluctuates widely from season to season. There is a fairly stable market for a relatively small volume in the Caribbean but any additional movement depends upon the demand from the United States, various South American countries and occasionally Europe.

Seed potato export requirements are relatively predictable. There are some variations from year to year in the seed requirements of the group of countries which have become regular users of Canadian potatoes. Uruguay's purchases are likely to be reduced somewhat, Venezuela's should equal last year's, Cuba's requirements are expected to exceed last season's, as are those of Jamaica, Italy and Greece. Argentina is likely to be a substantial outlet for Canadian seed once more. On the basis of current estimates, the United States market should require at least as much seed as last year. In total, therefore, the prospects for seed potato exports appear reasonably good.

In the case of frozen potato products, the British market is continuing to expand. The movement of "frozen french fries" to Britain during the first half of 1966 showed continuing growth and prospects are particularly good for the next year or two. However, new British production capacity will have an effect in the longer run. A continuation of the spectacular increase in last year's shipments of frozen french fried potatoes to Australia is unlikely owing to an increase in domestic production accompanying some relief from drought conditions and also the improved quality of the Australian product. However, possibilities also exist in West Germany for additional exports.

Further expansion in the potato industry during the next 3 to 4 years requires particular emphasis on the processing sector. It is from this growth that growers will continue to benefit in terms of increased demand for their products. The results from research suggest that improved varieties will be available which will give a wider choice of products than are presently obtained from some of the traditional varieties (Cherokee & Kenebec). Export prospects for processed potatoes will depend on the growth of processing industry and output from growers in importing countries.

OTHER FRUITS

Situation

Canadian production in 1966 was larger than in 1965 for all tender tree fruits except sour cherries, and all small fruit except raspberries and grapes. However, the sugar content of grapes in Ontario is above average and this is considered a vintage year. Because of dry weather in Ontario most tender tree fruit crops failed to attain normal size. British Columbia orchards recovered from the severe low temperature damage of late 1964 and produced a better crop than originally anticipated. Quebec showed a spectacular increase in blueberry yields. The crop reached an estimated 16 million pounds or more than five times as great as that of 1965, when production was below normal. The crop was greater this year in Newfound-

land, Prince Edward Island and New Brunswick than in 1965. The effect of this increased crop on prices will be a useful indication of the ability of the market to absorb increased production. During 1965 seasonal average wholesale quotations for blueberries was 55 cents per quart in Eastern Canada.

Ontario processors paid higher prices this year than last year for strawberries, raspberries, cherries, plums and prunes but lower prices for pears (excluding Kieffer). Peach prices remained unchanged. In the past Ontario fresh market peaches were subject to regulation by the Fresh Peach Marketing Board. In 1966 the Board assumed additional responsibility for fresh plums, prunes and pears.

Outlook

Canadian shipments of canned fruit, other than apples, to the British market have been relatively small. South Africa and Australia dominate the British market. Shipments of canned red sour cherries to Germany are expected to be smaller than last year, owing to the small Canadian pack, although the German demand is strong. This country has become an important market for specific canned fruit items.

THE LONGER RUN OUTLOOK

The Niagara District of Ontario is extremely important in the production of tender tree fruits. It is also an area where there has been considerable pressure on agricultural land resources for industrial, residential and recreational use. However, recent annual surveys of tender tree fruit plantings and removals suggest that, since 1962 for most fruits and since 1963 for peaches, tree numbers have remained about constant. For most crops during this period the proportion of young trees has increased. Total crop production has increased indicating higher yields per tree. These factors in themselves suggest increased production from this area in the future. Nevertheless the effect of land removed from fruit production cannot be ignored.

An additional factor is the competition from local industry for labor. However, it is probably true that the proximity of large industrial centres means that potential sources of orchard and processing plant help exist in the district. These people also provide a market. Small holdings owned and operated by industrial workers and devoted to fruit growing have developed although most of the land is held and operated in much larger units. It may be that the larger operators will progressively depend more upon mechanization while the proprietors of small holdings may be able to manage with relatively small expenditures for hired labor.

The Okanagan Valley of British Columbia is another important tender tree fruit growing area. Severe and extensive low temperature damage in the winter of 1964-65, which killed many of the trees, renders attempts to project trends based on past tree surveys impossible. Detailed studies must await full assessment of the damage on the surviving tree population and new plantings.

OTHER VEGETABLES

Situation

The distribution of vegetable acreage (excluding potatoes) between regions has remained fairly stable over the years with the Maritimes accounting for approximately 5 per cent of the Canadian acreage, Central Canada 80 per cent and Western Canada for about 15 per cent. In recent years, a greater proportion by value of the vegetables is used in the processing industry.

The number of establishments has not increased in the past 10 years, but the production of processed vegetable products has increased substantially as a result of greater plant capacity and increased productivity. For example, during 1954, the total cost of vegetables (beans, peas, corn and tomatoes) delivered to Canadian plants for processing, was $16 million. Ten years later, the comparative figure was $23 million or 42 per cent greater than in 1954.

Contracted acreage of vegetables for processing includes crops grown by farmers under contract as well as crops grown on land owned or rented by processors. Compared with last year, there was a slight increase in the 1966 acreage of beans, and corn was substantially higher. However, the 1966 tomato crop was well below processors' requirements because of reduced yields resulting from poor weather conditions. The crop of peas was also down from last year. The minimum prices for processing crops were generally higher this year.

Prospects for the pack of U.S. processed vegetables during the 1966-67 season indicate a moderate increase over last season. Early October reports for crops which account for two-thirds of total processing vegetable tonnage indicated a 5 per cent increase in tonnage.

Outlook

Export sales of frozen vegetables have developed very well, totaling 16 million pounds in 1965 compared with 2.3 million pounds in 1962. The movement of frozen vegetables to Britain in the first half of 1966 showed continuing growth led by frozen french fried potatoes and peas, and the upward trend should continue.

Canadian exports of canned tomato juice to Britain have been one of the bright spots in our trade, exceeding 50 per cent of Britain's imports of juice in 1965. With a smaller Canadian pack this season exports are likely to decline.

West Germany has become an important market for specific canned fruit and vegetable items. Since the canned wax bean pack in Quebec is smaller than in 1965, it is unlikely that exports will equal the 25 million pounds shipped in 1965. There is every indication, however, that West Germany in the foreseeable future will take whatever volume of wax beans Canada can supply at a reasonable price.

Acreage in dry onions is somewhat smaller this year, but prospects are for much improved quality over the crops of the last three years. The quality factor this season augurs well for holding Canada's share of the British onion market. There were serious complaints on quality from British buyers last year, and the competition there is such that without quality the market could be lost.

HONEY

Situation

Canadian honey production is expected to total over 45 million pounds in 1966 some 8 per cent less than the 1965 record crop of 49.2 million pounds. The number of colonies in 1966 is estimated at over 430,000 and the yield per colony at 106 pounds compared to 413,030 colonies yielding an average of 119 pounds the previous year.

Outlook

Export markets continue to expand. Exports of honey from Canada in 1965 amounted to 7.9 million pounds, an increase of almost 3 million pounds over the figure for 1964. Packaged honey accounted for a much greater proportion of the total shipped than in previous years.

The United Kingdom remains our largest customer and bought more than 7.2 million pounds of Canadian honey in 1965. Interesting new development is noted in the increased volume of exports to such other countries as Japan, Belgium-Luxembourg, West Germany, Norway and Switzerland.

MAPLE PRODUCTS

The production of maple products in 1966 was equivalent to 3.2 million gallons expressed as syrup. This figure includes 496,000 pounds of maple sugar produced on the farm and is an increase of 45 per cent over the 1965 crop of 2.2 million gallons.

Estimates of the total farm value of the 1966 crop are not available. The total value of production of maple products for the 1965 crop in Canada amounted to $9,555,000 compared to $7,590,000 for the 1964 crop.

GREENHOUSE INDUSTRY

The past year has seen continued development in chrysanthemum propagation. The major firms in Canada follow the practice of maintaining their stock plants in the southern United States to take advantage of the more favorable climatic conditions. Cuttings are taken from these stocks and shipped to the parent companies in Canada where they are rooted. Subsequently some of these rooted cuttings are exported to the United States.

Prior to the restrictions on inter-continental movement of plants with soil imposed in 1965 Belgium was the principal source of azaleas for the Canadian trade. In the past two seasons however rapid strides have been made by Canadian propagators and the market is now adequately supplied although supplemented by imports from the U.S. Attempts are being made to develop the same type of production pattern as prevails with chrysanthemum cuttings.

Statistics on the greenhouse industry in Canada were first collected for the year 1955. A comparison between conditions then and in recent years indicates considerable expansion. In 1955 the total area of glass reported stood at 14.3 million square feet and the total value of sales at $13.8 million (grower value). By 1964 an estimated 24 million square feet of glass were operated and the total value of sales reached $31.5 million. Although cut flowers remained the most important product throughout the period and sales increased from $9.4 million in 1955 to $13.7 million in 1964, the relative importance of other crops (potted plants, rooted cuttings, etc., as well as vegetables) showed a more rapid increase.

TABLE 1.—APPLES: PRODUCTION IN CANADA BY PROVINCE, 1954-58 TO 1966

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
			thousand bushels		
Canada	15,740	18,017	20,044	22,292	19,851
Nova Scotia	2,397	2,659	2,430	3,100	2,700
New Brunswick	355	480	425	450	450
Quebec	3,462	4,290	3,765	7,733	4,100
Ontario	3,608	4,885	6,522	5,383	5,774
British Columbia	5,918	5,703	6,902	5,626	6,827

TABLE 2.—APPLES: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966-67
(CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
	thousand bushels				
Production	15,740	18,017	20,044	22,292	19,851
Imports	1,035	1,094	1,610	1,295	
Total supply	16,775	19,111	21,654	23,587	
Fresh exports	2,389	2,785	2,887	2,544	
Processed	4,512	5,511	6,790	7,729	
Waste	2,297	2,555	2,732	2,977	
Available for domestic use	7,577	8,260	9,245	10,337	
	annual wholesale price dollars				
Ontario McIntosh (Toronto) Fancy—bu	2.83	2.96	3.30	3.16	
B.C. McIntosh (Winnipeg) Fancy cell. pack	4.49	4.48	4.27	4.63	

TABLE 3.—CANNED APPLES[a]: SUPPLIES AND DISTRIBUTION, CANADA, 1954-58 TO 1966-67
(CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66	1966–67 (Preliminary)
	thousand pounds				
Beginning stocks	14,433	16,346	16,322	20,385	23,533
Production	33,253	41,527	48,231	53,948	
Total supply	47,686	57,873	64,553	74,333	
Exports	1,230	5,648	3,675	6,639	
Ending stocks	15,680	16,552	20,385	23,533	
Apparent domestic disappearance	30,776	35,673	40,493	44,161	

[a]Includes solid pack apples, apple sauce and apple pie filling.

TABLE 4.—APPLE JUICE: SUPPLIES AND DISTRIBUTION, CANADA, 1954-58 TO 1966-67
(CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
	thousand pounds				
Beginning stocks	20,813	25,434	39,310	41,365	59,490
Production	66,001	102,821	133,151	168,563	
Total supply	86,814	128,255	172,461	209,928	
Exports[a]	3,025	3,379	5,218	3,303	
Ending stocks	22,859	29,574	41,365	59,490	
Apparent domestic disappearance	60,930	95,302	125,878	147,135	

Notes: [a]Conversion factors:
(1) not concentrated—no. of gallons x 10.6 pounds
(2) concentrated—no. of gallons x 10.6 pounds x 7.0 pounds.

TABLE 5.—POTATOES: ACREAGE IN CANADA BY PROVINCE, 1954-58 TO 1966

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
			thousand acres		
Canada	308.8	291.0	281.2	298.8	328.1
Prince Edward Island	43.8	43.2	40.0	43.0	50.0
Nova Scotia	10.5	7.7	6.6	7.0	8.0
New Brunswick	46.2	50.4	54.0	57.0	65.0
Quebec	95.7	75.3	60.8	63.5	63.5
Ontario	54.8	50.7	53.0	56.0	64.0
Manitoba	15.6	19.4	24.5	26.5	28.0
Saskatchewan	13.9	12.6	11.8	12.3	12.7
Alberta	18.1	20.6	21.1	23.0	26.0
British Columbia	10.2	11.1	9.4	10.5	10.9

TABLE 6.—POTATOES: PRODUCTION IN CANADA BY PROVINCE, 1954-58 TO 1966-67 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66	1966–67 (Preliminary)
			thousand hundredweight		
Canada	39,607	42,980	47,733	46,472	57,016
Prince Edward Island	7,466	7,400	8,372	7,341	9,450
Nova Scotia	1,513	995	965	858	1,250
New Brunswick	8,356	9,597	11,610	11,280	12,870
Quebec	9,813	9,061	8,208	7,239	7,455
Ontario	6,841	9,035	10,494	10,584	15,360
Manitoba	1,316	1,637	2,940	3,100	3,500
Saskatchewan	864	804	920	970	925
Alberta	1,635	2,359	2,429	3,000	4,000
British Columbia	1,803	2,092	1,795	2,100	2,200

TABLE 7.—POTATOES: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966-67 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand hundredweight		
Production	39,607	42,980	47,733	46,472	57,016
Imports	1,818	1,979	1,326	1,749	
Total supply	41,425	44,959	49,059	48,221	
Used for seed following year	2,926	2,788	2,868	3,150	
Processed	1,998	3,701	4,971	5,400[a]	
Exports—table stock	1,098	1,265	2,214	781	
—certified seed	1,859	1,853	2,681	1,961	
Shrinkage (20% of crop)	7,921	8,596	9,547	9,294	
Apparent domestic disappearance (fresh)	25,623	26,756	26,778	27,685	
			annual average wholesale price per 100 lb. dollars		
Montreal (N.B. potatoes)	2.65	2.68	4.19	3.30	
Toronto (P.E.I. potatoes)	3.04	3.10	4.87	3.93	

[a]Basis percentage increase 1964-65 crop year over year earlier figure.

TABLE 8.—PACK OF PROCESSED POTATO PRODUCTS, CANADA, 1961 TO 1965

	Unit	1961	1962	1963	1964	1965 (Preliminary)
Canned white potatoes	'000 cases	58	[a]	91	156	136
Chips, frills, etc	'000 lbs.	39,711	50,465	47,762	51,946	62,304
Dehydrated (flakes, granules, etc.)	'000 lbs.	36,244[b]	6,063	4,733	6,741	[a]
Frozen french fried potatoes and other frozen products	'000 lbs.		28,035	35,681	54,591	104,072
Pre-peeled and cut	'000 lbs.		8,535	13,282	14,847	18,126

[a]Confidential.
[b]Prior to 1962, production figures included all the items listed.

TABLE 9.—FRESH PEARS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966-67 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
	thousand bushels				
Production	1,357	1,547	2,000	1,063	1,881
Imports	486	525	490	660	
Total supply	1,843	2,072	2,490	1,723	
Fresh exports	37	65	199	35	
Processed	662	829	1,044	727	
Available for domestic use (fresh)	1,144	1,178	1,247	961	
	annual average wholesale price dollars				
Ontario 6 qt. (all markets)	.93	.99	.97	1.13	
B.C. Barlett box (all markets)	5.36	5.82	5.41	3.63[a]	

[a]Handi Pack "C".

TABLE 10.—CANNED PEARS: SUPPLIES, DISTRIBUTION AND MINIMUM PRICES FOR PROCESSING, CANADA, 1954-58 TO 1966-67

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
	thousand pounds				
Beginning stocks	14,687	13,686	7,951	11,485	10,878
Production	30,845	32,400	37,379	27,277	
Imports	3,235	4,996	12,031	7,670	
Total supply	48,767	51,082	57,361	46,432	
Exports	1,148	2,196	376	276	
Ending stocks	15,240	13,325	11,485	10,878	
Apparent domestic disappearance	32,379	35,561	45,500	35,278	
	minimum prices for processing dollars per ton				
Ontario					
Bartlett—2" up	107.50	110.40	107.50	130.50	115.50
Kieffer—2"/16 up	55.00	57.80	59.00	67.00	

TABLE 11.—FRESH CHERRIES: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966-67

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand bushels		
Production	623	632	1,162	685	709
Imports	52	53	62	80	
Total supply	675	685	1,224	765	
Fresh exports	25	31	68	19	
Processed	309	336	583	483	
Available for domestic use (fresh)	341	318	574	263	
			annual average wholesale price dollars		
Ontario Black sweet 6 qt. (all markets)	2.14	2.22	1.96	2.78	
Ontario Sour 6 qt. (all markets)	1.52	1.67	1.56	1.69	
B.C. Bing and Lamberts (all markets) 20 lbs.	7.31	7.41	6.86	10.05	

TABLE 12.—CANNED CHERRIES: SUPPLIES, DISTRIBUTION AND MINIMUM PRICES FOR PROCESSING, CANADA 1954-58 TO 1966-67

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Beginning stocks	2,191	1,727	720	2,076	624
Production	8,569	9,326	13,637	10,578	
Total supply	10,760	11,053	14,357	12,654	
Ending stocks	2,391	1,480	2,076	624	
Apparent domestic disappearance	8,369	9,573	12,281	12,030	
			minimum prices for processing dollars per ton		
Ontario					
Sweet, white	220.00	252.40	260.50	270.50	290.50
Sweet, black for canning	240.00	272.40	295.50	310.50	340.50
Sweet, black for brining	—	—	210.50	220.50	240.50
Sour	188.00	192.50	130.50	150.50	260.50

TABLE 13.—FRESH PEACHES: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966-67

	Average 1954–58	Average 1959–63	1964	1965 (Preliminary)	1966 (Preliminary)
			thousand bushels		
Production	2,564	2,542	2,862	1,606	2,170
Imports	502	734	377	631	
Total supply	3,066	3,276	3,237	2,237	
Fresh exports	28	8	4	2	
Processed	1,241	1,191	1,234	721	
Available for domestic use (fresh)	1,797	2,077	2,001	1,514	
			annual average wholesale price dollars		
Ontario 6 qt. heaped No. 1 (all markets)	1.12	1.15	1.24	1.26	
B.C. Box No. 1 (all markets)	2.42	2.46	2.61	—	

TABLE 14.—CANNED PEACHES: SUPPLIES, DISTRIBUTION AND MINIMUM PRICES, PROCESSING, CANADA, 1954-58 TO 1966-67 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Beginning stocks	17,022	18,403	8,724	10,134	5,288
Production	55,484	47,737	45,452	28,482	
Imports	14,035	25,423	41,841	40,975	
Total supply	86,541	91,563	96,017	79,591	
Exports	1,857	652	256	59	
Ending stocks	19,171	16,079	10,134	5,288	
Apparent domestic disappearance	65,513	74,832	85,627	74,244	
			minimum prices for processing dollars per ton		
Ontario					
Jubilee 2" up	96.90	100.20	111.50	125.50	125.50
Others 2" up	82.90	95.20	106.50	120.50	120.50

TABLE 15.—FRESH APRICOTS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966-67

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
			thousand bushels		
Production (B.C. only)	180	232	387	2	271
Imports	105	65	68	134	
Total supply	285	297	455	136	
Fresh exports	—	2	—	—	
Processed	83	92	186	n.a.	
Available for domestic use (fresh)	202	203	269	—	
			annual average wholesale price dollars		
Price per B.C. vu-pack No. 1 (all markets)	2.24	2.30	2.13	—	

TABLE 16.—CANNED APRICOTS: SUPPLIES AND DISTRIBUTION, CANADA, 1954-58 TO 1966-67

	Average 1954–58	Average 1959–65	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Beginning stocks	3,311	2,321	1,339	2,597	1,402
Production	6,191	5,598	7,126	4,648	
Imports	4,797	4,897	5,576	7,232	
Total supply	14,299	12,816	15,042	14,477	
Ending stocks	3,561	2,115	2,597	1,402	
Apparent domestic disappearance	10,738	10,701	12,445	13,075	

TABLE 17.—FRESH PLUMS AND PRUNES: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966-67

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand bushels		
Production	656	570	667	519	580
Imports	300	350	380	510	
Total supply	956	920	1,047	1,029	
Exports	20	2	10	—	
Processed	186	157	157	85	
Apparent domestic disappearance	750	761	880	944	
			annual average wholesale price dollars		
Ontario—6 qt.	.96	1.12	1.09	1.17	
B.C.—6 qt. flat	—	—	2.11[a]	2.63[a]	

[a]Vu-pack.

TABLE 18.—CANNED PLUMS: SUPPLIES, DISTRIBUTION AND MINIMUM PRICES FOR PROCESSING, CANADA, 1954-58 TO 1966-67

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Beginning stocks	4,052	2,954	3,745	2,605	1,315
Production	10,526	8,820	7,575	5,846	
Total supply	14,578	11,774	11,320	8,451	
Ending stocks	4,256	2,934	2,605	1,315	
Apparent domestic disappearance	10,322	8,840	8,715	7,136	
			minimum prices for processing dollars per ton		
Ontario Felenburg and German	65.00	79.80	85.50	95.50	105.50

TABLE 19.—FRESH STRAWBERRIES: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966-67

	Average 1954–58	Average 1959–63	1964	1965 (Preliminary)	1966 (Preliminary)
			thousand quarts		
Production	22,028	22,032	30,866	17,282	27,777
Imports	11,679	16,705	16,849	12,551	
Total supply	33,707	38,737	47,715	29,833	
Fresh exports	310	105	n.a.	n.a.	
Processed	10,745	10,679	14,284	6,858	
Available for domestic use (fresh)	22,652	29,953	33,431	22,975	
			annual average wholesale price dollars		
Quarts (all markets) East	.36	.37	.40	.46	
24 pt. crate (all markets) West	6.63	6.73	6.80	7.98	

TABLE 20.—CANNED STRAWBERRIES: SUPPLIES, DISTRIBUTION AND MINIMUM PRICES FOR PROCESSING, CANADA, 1954-58 TO 1966-67

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Beginning stocks	1,510	811	415	771	350
Production	3,432	2,832	4,234	1,827	3,453
Total supply	4,942	3,643	4,649	2,598	3,803
Ending stocks	1,487	785	771	350	
Apparent domestic disappearance	3,455	2,858	3,878	2,248	
			minimum prices for processing cents per 20 oz. quart		
Ontario	15.0	16.8	17.5	18.0	19.5

TABLE 21.—FRESH RASPBERRIES: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1965-66

	Average 1954–58	Average 1959–63	1964	1965 (Preliminary)	1966 (Preliminary)
			thousand quarts		
Production	11,154	11,230	13,765	13,365	12,705
Imports	629	509	11		
Total supply	11,783	11,739	13,776		
Fresh exports	—	752	2,049		
Processed	7,395	7,305	10,612		
Available for domestic use (fresh)	4,388	3,682	1,115		
			annual average wholesale price dollars		
Pints (all markets) East	.28	.27	.31	.35	
24 pt. crate (all markets) West	6.27	6.63	7.07	8.21	

TABLE 22.—CANNED RASPBERRIES: SUPPLIES, DISTRIBUTION AND MINIMUM PRICES FOR PROCESSING, CANADA, 1954-58 TO 1966-67

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Beginning stocks	810	568	146	555	526
Production	3,214	3,160	3,780	3,167	
Total supply	4,024	3,728	3,926	3,722	
Ending stocks	848	409	555	526	
Apparent domestic disappearance	3,176	3,319	3,371	3,196	
			minimum prices for processing cents per 20 oz. quart		
Ontario					
Purple	26.4	26.6	29.0	35.5	36.5
Red	—	—	32.5	37.5	39.0

TABLE 23.—BLUEBERRIES, PRODUCTION, PRICES AND EXPORTS, CANADA, 1954-58 TO 1966-67

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
			thousand pounds		
Canada (excluding Ontario)	20,363	20,571	20,861	18,139	36,050
Newfoundland	1,132	1,979	1,036	2,264	3,000
Prince Edward Island	318	314	200	250	300
Nova Scotia	3,949	6,140	5,100	7,000	7,000
New Brunswick	3,280	3,900	3,000	2,500	6,000
Quebec	10,445	6,251	8,762	3,081	16,550
Ontario	n.a.	n.a.	n.a.	n.a.	n.a.
British Columbia[a]	1,239	1,987	2,763	3,044	3,200
			annual average wholesale price dollars		
Eastern 11 qt. basket	4.57	4.34	5.16		
B.C. 24 pt. crate	8.11	8.25	8.55		
			thousand pounds		
Exports (fresh)	11,906	7,042	7,287	5,720	
Exports (frozen)	1,887	5,107	4,955	6,369	
Total	13,793	12,149	12,242	12,089	

[a]Cultivated highbush blueberries.

TABLE 24.—FRESH GRAPES, SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966

	Average 1954–58	Average 1959–63	1964	1965 (Preliminary)	1966 (Preliminary)
			thousand pounds		
Production	87,889	96,399	119,595	126,012	112,380
Imports	122,531	174,248	211,360	262,587	
Total supply	210,420	270,647	330,955	388,599	
Fresh exports	19,463	7,786	28,660	18,837	
Processed	52,604	71,019	77,496	76,000	
Available for domestic use (fresh)	138,353	191,842	224,799	293,762	
			annual average wholesale price dollars		
Ontario—Blue 6 qt. No. 1 (all markets)	0.86	1.03	1.06	1.03	
			minimum price for processing, dollars per ton		
Ontario	83.55	96.60	102.00	107.00	102.50

TABLE 25.—PRODUCTION OF FROZEN FRUITS AND VEGETABLES, CANADA, 1954-58 TO 1966

	Average 1954–58	Average 1959–63	1964	1965 (Preliminary)	1966 (Preliminary)
			thousand pounds		
Frozen Vegetables					
Asparagus	n.a.	436[a]	729	590	734
Broccoli	n.a.	1,553[b]	1,923	1,585	
Brussell's sprouts	n.a.	1,505[b]	2,602	1,181	
Beans, green	2,610	6,517	13,265	11,747	13,125
Beans, wax	262	915	2,355	1,837	1,965
Corn	3,575	10,258	9,825	14,818	
Corn-on-cob	217[c]	890	1,024	1,571	20,368
Peas	18,194	33,742	48,458	53,145	49,917
Other vegetables	1,566	6,815[c]	—	—	
Total	26,424	62,631	80,181	86,474	
Frozen Fruits					
Apples	2,072[d]	3,178	7,980	7,374	
Blueberries	2,794	4,534	4,502	8,306	
Cherries	4,022	5,711	12,803	9,696	5,946
Peaches	557[b]	591[b]	665	782	465
Plums	267[a]	597[b]	473	869	586
Raspberries	6,101	8,030	10,384	12,334	12,136
Rhubarb	706[c]	387[c]	1,548	1,258	
Strawberries	9,183	12,880	17,955	8,444	18,237
Other fruits	421	931[c]	—	—	
Total	26,123	36,839	56,310	49,063	

[a]3 year average only.
[b]1 year average only.
[c]4 year average only.
[d]2 year average only.

TABLE 26.—FROZEN VEGETABLES: SUPPLIES AND DISTRIBUTION, CANADA, 1962-63 TO 1966-67 (CROP YEAR, JUNE 1 TO MAY 31)

	1962–63	1963–64	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Stocks at June 1	30,301	34,872	35,945	37,287	37,792
Production	62,228	64,651	80,181	86,474	
Imports[a]	10,748	10,322	5,862	6,376	
Total supply	103,277	109,845	121,988	130,137	
Exports	4,555	11,412	10,208	10,883	
Stocks at May 31	34,872	35,945	37,287	37,792	
Domestic disappearance	63,850	62,488	74,493	81,462	

[a]Excluding frozen potato products.

TABLE 27.—FROZEN FRUITS: SUPPLIES AND DISTRIBUTION, CANADA, 1962-63 TO 1966-67 (CROP YEAR, JUNE 1 TO MAY 31)

	1962–63	1963–64	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Stocks at June 1	20,811	16,965	16,511	25,299	22,600
Production	32,032	36,734	51,365	39,888	
Imports[a]	17,570	15,143	17,679	25,433	
Total supply	70,413	68,842	85,555	90,620	
Exports[b]	230	525	416	740	
Stocks at May 31	16,965	16,511	25,299	22,600	
Domestic disappearance	53,218	51,806	59,840	67,280	

[a]Excluding frozen citrus juices.
[b]Excluding frozen blueberries.

TABLE 28.—VEGETABLE ACREAGE: CANADA AND PROVINCES, 1954-58 TO 1966

	Average 1954–58	Average 1959–63	1964	1965	1966
			number of acres		
Prince Edward Island	n.a.	n.a.	n.a.	210	
Nova Scotia	4,318	3,184	5,170	4,330	
New Brunswick	980	6,010	10,380	9,040	
Quebec	53,438	68,148	83,170	75,430	
Ontario	105,558	105,502	115,470	116,510	
Manitoba	4,420	3,604	3,820	4,010	
Alberta	10,838	15,422	16,000	13,010	
British Columbia	15,726	15,674	13,490	17,390	
Canada	195,278	217,544	247,500	239,930	

TABLE 29.—CANNED GREEN AND WAX BEANS: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE, CANADA, 1954-58 TO 1966-67 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66	1966–67 (Preliminary)
			thousand pounds		
Stocks at July 1	16,343	17,107	11,371	21,532	10,688
Production	54,709	60,233	92,832	81,257	
Total supply	71,052	77,340	104,203	102,789	
Exports	—	3,371	17,957	26,107	
Stocks at June 30	17,724	13,404	21,532	10,688	
Domestic disappearance	53,328	60,565	64,714	65,994	
			minimum price for processing dollars per ton		
Ontario	102.80	106.60	105.00	107.50	110.00
			acreage for processing		
Canada[a]	10,066	14,178	25,670	23,730	25,110

[a]Also includes acreage for freezing.

TABLE 30.—CANNED CORN: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE, CANADA, 1954-58 TO 1966-67 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Stocks at July 1	31,859	37,548	26,110	25,516	19,693
Production	76,451	89,832	99,579	99,167	
Imports	5,052	1,327	738	1,692	
Total supply	113,362	128,707	126,427	126,375	
Exports	1,069	4,080	8,110	8,059	
Stocks at June 30	33,067	35,202	25,516	19,693	
Domestic disappearance	79,226	89,425	92,801	108,623	
			minimum price for processing dollars per ton		
Ontario	25.40	26.00	26.00	27.00	28.00
			acreage for processing		
Canada[a]	42,938	40,908	37,920	40,210	45,810

[a]Also includes acreage for freezing.

TABLE 31.—CANNED PEAS: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE, CANADA, 1954-58 TO 1966-67 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Stocks at July 1	43,122	30,319	22,819	23,577	37,696
Production	114,666	102,287	117,303	137,810	
Imports	1,454	643	109	81	
Total supply	159,242	133,249	140,231	161,468	
Exports	1,453	1,886	1,358	3,148	
Stocks at June 30	47,554	24,803	23,577	37,696	
Domestic disappearance	110,235	106,560	115,296	120,624	
			minimum price for processing dollars per ton		
Ontario (tenderometer reading 0 to 80)	—	—	175.00	175.00	175.00
			acreage for processing		
Canada[a]	50,812	47,844	61,280	58,390	55,940

[a]Also includes acreage for freezing.

TABLE 32.—CANNED TOMATOES: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE, CANADA, 1954-58 TO 1966-67 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Stocks at July 1	23,971	22,073	3,657	5,574	12,542
Production	77,419	94,169	83,029	101,380	
Imports	18,978	16,663	31,797	33,257	
Total supply	120,368	132,905	118,483	140,211	
Exports	153	118	n.a.	—	
Stocks at June 30	18,116	19,548	5,574	12,542	
Domestic disappearance	102,099	113,239	112,909	127,669	
			minimum price for processing dollars per ton		
Ontario, No. 1	38.70	41.50	41.50	45.00	48.95
			acres		
Contracted acreage					
Ontario	29,982	22,946	20,430	20,920	23,460
Canada	38,028	26,700	21,890	21,450	25,390

TABLE 33.—TOMATO JUICE: SUPPLIES AND DISTRIBUTION, CANADA, 1954-58 TO 1966-67 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Stocks at July 1	36,500	58,089	29,177	48,802	73,595
Production	133,073	188,765	209,893	227,477	
Imports	30,476	12,398	16,387	6,996	
Total supply	200,049	259,252	255,457	283,275	
Exports	1,886	9,406	15,524	18,223	
Stocks at June 30	39,446	51,684	48,802	73,595	
Domestic disappearance	158,717	198,162	191,131	191,457	

TABLE 34.—TOMATO PASTE, PULP AND PUREE: SUPPLIES AND DISTRIBUTION, CANADA, 1954-58 TO 1966-67 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Stocks at July 1	5,724	5,937	7,326	2,946	3,020
Production	7,353	4,521	[a]	[a]	
Imports	24,248	23,947	20,297	39,955	
Total supply	37,325	34,405	27,623	42,901	
Exports	25	7	—	—	
Stocks at June 30	6,952	5,135	2,946	3,020	
Domestic disappearance	30,348	29,263			

[a]Confidential.

TABLE 35.—ONIONS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966-67

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Production	110,650	191,090	215,722	288,966	
Imports	83,849	62,216	75,236	61,542	
Total supply	194,499	253,306	290,958	350,508	
Fresh exports	5,595	33,240	58,534	61,049	
Available for domestic use	188,904	220,066	232,424	289,459	
Processed	7,068	8,956	8,319	9,339	
Available for fresh use	181,836	211,110	224,103	280,120	
			annual average wholesale price per 50 lb. bag for yellow onions dollars		
Montreal	2.01	2.04	2.45	2.10	
Toronto	2.04	1.99	2.08	1.90	
Vancouver	2.55	3.37	3.24	3.26	

TABLE 36.—CARROTS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966-67 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Production	174,440	297,890	351,427	300,637	
Imports	77,973	80,120	78,194	66,681	
Total supply	252,413	378,010	429,621	367,318	
Fresh exports	—	17,439	48,411	39,163	
Available for domestic use	252,413	360,571	381,210	328,155	
Processed	37,388	47,951	59,260	58,000	
Available for fresh use	215,025	312,620	321,950	270,155	
			annual average wholesale price per 50 lb. bag dollars		
Montreal	1.43	1.39	1.21	1.88	
Toronto	1.59	1.43	1.63	1.75	
Vancouver	2.63	2.92	3.58	3.43	

TABLE 37.—HONEY: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966-67 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66 (Preliminary)	1966–67 (Preliminary)
			thousand pounds		
Stocks at July 1	4,554	8,677	7,170	9,330	11,411
Production	25,743	34,333	36,662	49,157	45,000
Imports	4,913	2,233	3,699	3,069[a]	
Total supply	35,210	45,243	47,531	61,556	
Exports	385	3,370	5,826	7,671	
Available for domestic use	34,825	41,873	41,705	52,885	
Stocks at June 30	5,948	8,298	9,330	11,411	
Domestic disappearance	28,877	33,575	32,375	41,474	
			dollars		
Average farm price per lb	0.18	0.17	0.18	0.18	

[a]11 months only.

TABLE 38.—MAPLE SUGAR AND SYRUP: PRODUCTION IN CANADA, BY PROVINCE, 1954-58 TO 1966

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
			thousand gallons, syrup equivalent		
Canada	2,590	2,666	1,770	2,254	3,226
Nova Scotia	6	5	1	4	7
New Brunswick	20	13	6	16	14
Quebec	2,281	2,389	1,607	2,046	2,892
Ontario	283	259	156	188	313

TABLE 39.—MAPLE SUGAR AND SYRUP: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-58 TO 1966

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
			thousand gallons, syrup equivalent		
Production	2,590	2,666	1,770	2,254	3,226
Imports	10	1	—	—	
Total supply	2,600	2,667	1,770	2,254	
Exports	1,132	1,325	1,110	1,264	
Available for domestic use	1,468	1,342	660	990	
			dollars		
Farm prices, maple syrup per gallon	3.96	3.96	4.25		
Farm prices, maple sugar per pound	0.47	0.50	0.57		

SUGAR BEETS, DRY PEAS AND DRIED BEANS

SUGAR BEETS

Situation

The acreage of sugar beets in Canada in 1966 amounted to 82.3 thousand acres, about three thousand acres lower than in 1965 and about 19 thousand acres below that of 1964. A slight increase in Ontario failed to offset the decline in Manitoba and the other producing provinces. Lower acreage in Manitoba was due partly to adverse spring planting conditions. There was difficulty in Ontario in contracting for the desired acreage. To give greater confidence to the industry, the sugar beet company announced that it would

operate the plant for at least another five years. This is intended to encourage growers to grow more beets.

On April 7, 1966, the Minister of Agriculture announced that the 1966 sugar beet crop would be supported again at $14.35 a standard ton (250 pounds *of* refined sugar). Throughout the 1965-66 crop year (September 1 - August 31), world sugar prices were below those of a year earlier when a support payment of $3.15 a ton was paid. Although stocks of beet sugar in company hands on March 1, 1966 were 196 million pounds compared with 225 million a year earlier, total sugar stocks at 600 million pounds were up about ten per cent. Domestic prices for refined sugar in Canada in 1966 have been running about $1.00 a hundred pounds below corresponding prices a year earlier and consumption has been about five per cent above levels of a year ago. With a reduced supply of beet sugar this year, the increased sales have come from cane sugar which has been moving into consumption at a volume about seven per cent higher in 1966 than in 1965.

During 1964-65 world sugar production amounted to 73.8 million short tons raw value compared with 60.6 million for 1963-64. Consumption increased during the same period from 60.6 million to 65.0 million tons. At the end of the calendar year 1965, world stocks were estimated at 31.9 million tons in comparison with 27 million a year earlier.

Predictions of world production for 1965-66 are 69.9 million tons, a decrease of 3.9 million tons while consumption estimates are placed at 67.8 million tons, an increase of 2.8 million tons from the previous year.

The world price throughout 1965 and 1966 has established record low levels with futures markets indicating continued low prices for 1967.

Outlook

Reduced stocks of beet sugar in Canada suggest that acreage contracts available in Manitoba and Alberta may be increased in 1967. Population growth in the Prairies will warrant increased production over the years. Continued efforts by company and growers may result in some further acreage recovery in Ontario but little change is expected in Quebec. In view of the world sugar situation, returns to growers in 1967 will depend on their contracts with the companies and on government support policy.

DRY PEAS

Situation

Acreage of dry peas in Canada at 62,200 acres in 1966 was up about seven thousand acres over 1965, as the result of an increase to 40 thousand acres in Manitoba, where most of the dry peas are produced. The combined acreage in British Columbia and Alberta increased by nearly 3,000 acres, where much of the production is used for seed to produce green peas. An increase in acreage in Quebec was more than offset by a decline in Ontario, but in both provinces some of the acreage is normally harvested as forage and the quantity available for market as dry peas represents a very small share of Canadian supplies.

A wet spring in the Red River Valley in 1966 reduced the crop in that area. The main producing areas in Manitoba and Saskatchewan had a lower yield per acre than last year, with expectations for a marketable crop of yellow peas about 20 per cent below last year. Quality is reported as excellent.

The total dry peas crop for Canada is expected to be 1.2 million bushels, a decline of six per cent. There was practically no summer carryover of yellow peas in 1966, in contrast with substantial quantities in 1965. At mid-September, the price of peas for export was considerably higher than in 1965, and the highest since 1960. Trade sources report inquiries for peas from countries which are normally exporters, another indication of a strong export market.

Outlook

Higher United States prices reflect a strong export market, which in turn provides a stabilizing effect on the domestic Canadian market. The 1966 crop will find markets without difficulty. Increased production in 1967 and in the following two or three years appears warranted.

DRIED BEANS

Situation

The 1966 bean acreage increased by 4,900 acres to a total of 90,700 acres, continuing the rising trend of recent years. Increases in Ontario offset the reduction in Quebec acreage. Because of slightly higher yields, total production is estimated at about 2.3 million bushels, somewhat higher than last year.

The domestic consumption of dry beans is relatively stable and appears to keep pace with increasing population. The quantity available for export appears to be similar to that of 1965-66. In October, 1966, the price of Ontario dry beans was $4.26 per bushel, little changed over the past year.

Exports of dry beans have increased rapidly in recent years and reached new heights last season. (In the 12 months ending July, 1966 exports of all types of dry beans totaled 1,068,000 bushels of which 1,017,000 bushels went to Britain).

During the past year the British market for white beans has been more than usually active. Indications are that buyers of white beans in that country would

take much larger quantities, if Canada could supply them. Officials of the Board of Grain Commissioners last summer visited bean processors in Britain, and executives of the British manufacturers toured the bean producing area in Ontario. The leading British packer of baked beans took much larger quantities of beans last season than in previous years.

Outlook

The demand for white beans in Britain is strong and exports could be greatly expanded if production can be increased in Canada. Prospects for red kidney beans in the Caribbean area are also considered good. Prices are expected to remain firm.

TABLE 1.—SUGAR BEETS: ACREAGE, PRODUCTION AND PRICES, IN CANADA, 1954-55 TO 1966-67

	Average 1954–55 to 1958–59	Average 1959–60 to 1963–64	1964–65	1965–66	1966–67
			acres		
Canada	86,538	88,282	101,312	85,023	82,271
Quebec	6,003	7,712	10,628	9,257	8,600
Ontario	21,543	18,676	18,742	10,950	12,071
Manitoba	22,090	22,675	29,820	25,917	23,000
Alberta	36,902	39,219	42,122	38,899	38,600
			thousand tons		
Production (Canada)	1,051	1,167	1,298	1,142	1,094
			dollars per ton		
Average farm price	14.10	15.52	14.71	9.13[a]	

[a]Excludes deficiency payment.

TABLE 2.—DRY BEANS: ACREAGE, PRODUCTION, DISTRIBUTION AND PRICES IN CANADA, 1954-55 TO 1966-67 (CROP YEAR, AUGUST 1 TO JULY 31)

	Average 1954–55 to 1958–59	Average 1959–60 to 1963–64	1964–65	1965–66	1966–67[a]
			acres		
Canada	68,540	66,300	76,000	85,800	90,700
Quebec	1,420	940	1,000	800	700
Ontario	67,120	65,360	75,000	85,000	90,000
			thousand bushels		
Canada					
Production	1,138	1,271	1,879	1,986	2,255
Imports	153	121	100	101	
Total supply	1,291	1,392	1,979	2,087	
Exports	93	307	663	689	
Available for domestic use	1,198	1,085	1,316	1,398	
			dollars per bushel		
Average farm price	4.02	4.02	4.24	4.39	

[a]Estimates.

TABLE 3.—DRY PEAS: ACREAGE IN CANADA, BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966
			acres		
Canada	75,020	59,980	71,600	55,400	62,200
Quebec	3,500	2,220	2,400	3,200	3,300
Ontario	7,740	2,860	2,700	2,500	2,000
Manitoba	46,920	41,100	52,000	36,000	40,000
Saskatchewan	2,480	2,860	3,700	3,000	3,400
Alberta	8,980	7,040	8,200	8,000	10,500
British Columbia	5,400	3,900	2,000	2,700	3,000

TABLE 4.—DRY PEAS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1954-55 TO 1966-67 (CROP YEAR, AUGUST 1 TO JULY 31)

	Average 1954–55 to 1958–59	Average 1959–60 to 1963–64	1964–65	1965–66	1966–67[a]
			thousand bushels		
Production	1,281	1,013	1,598	1,244	1,169
Imports	83	77	48	63	
Total supply	1,364	1,090	1,646	1,307	
Exports	371	249	369	721	
Available for domestic use	993	841	1,277	586	
			dollars per bushel		
Average farm price	2.24	2.23	2.10	2.18	

[a]Estimate.

TOBACCO

Situation

Total tobacco acreage in Canada in 1966 was 130,175 acres. This was 31 per cent higher than in 1965 but less than 1 per cent higher than the 1959-63 average. Most of the increase in acreage took place in Ontario, the major tobacco area. In Quebec, the total tobacco acreage was 663 acres less than in 1965 but in the Maritime provinces, there was an increase of 147 acres.

Flue-cured tobacco acreage in Ontario was increased as a result of the Ontario Flue-Cured Tobacco Growers' Marketing Board's decision to increase the permitted acreage from approximately 90,000 acres in 1965 to 128,000 acres in 1966 out of a basic acreage allotment of 152,444 acres. This decision was made in the light of the tobacco processing and export companies' estimated total requirement of 228 million pounds, green weight, which took into account a significant increase in domestic consumption, the amount required to restore stocks to a satisfactory level and normal export requirements. An arrangement had been made between the United Kingdom tobacco buyers and the Ontario tobacco growers for the purchase of 55.5 million pounds green weight from the 1966 crop, given satisfactory quality and prices. The average United Kingdom purchase in the past few years has been 36.1 million pounds, green weight equivalent.

The increased acreage and trend towards increased yields in recent years were expected to result in a record crop. However, as a result of the decision of individual farmers, the actual acreage of flue-cured tobacco planted in Ontario was only 117,471 acres, some 10,500 acres less than the amount permitted. A further setback in supply prospects was suffered when extensive frost damage in Ontario during September reduced the estimated production from 215 million pounds to 195 million pounds. Good crops in Quebec and the Maritimes are expected to raise the total flue-cured crop to approximately 203 million pounds, green weight, or 183 million pounds redried basis.

In spite of higher retail prices, cigarette consumption, as indicated by the sale of excise revenue stamps, continues to increase. In 1965, excise revenue was paid on 43.0 billion cigarettes, compared to 40.6 billion in 1964 and 39.8 billion in 1963. This increase in cigarette consumption, combined with a general tendency to increase the length of cigarettes, has resulted in an increased amount of tobacco required for domestic manufacture. It is estimated that 128 million pounds of aged, redried flue-cured tobacco were taken for manufacture during the crop year ending September 30, 1966. This is an increase of 5.5 million pounds over the previous crop year.

Stocks of aged, redried flue-cured tobacco available for domestic use, as of September 30, 1966, are expected to be less than 136 million pounds. This is the lowest level since 1960 and represents only 12.8 months domestic supply at present usage rate.

Burley tobacco acreage was increased in 1966 to 2,790 acres compared to the 1,939 acres produced in 1965. The 1966 acreage is also higher than the 1964 crop of 2,351 acres but it is considerably below the 1959-63 average of 3,710 acres. As in 1965, the entire burley crop is grown in Ontario and it is estimated that this year it will amount to between 5 and 6 million pounds green weight. Aged, redried stocks of burley tobacco, although they are at the lowest level since 1957, are still well ahead of current demand.

Cigar tobacco is produced in Quebec and it is estimated that production in 1966 will amount to 3.9 million pounds. This is less than the 1965 production of 4.54 million pounds due to an 18 per cent reduction in acreage this year.

Outlook

In view of the current trend to increased consumption of cigarettes and the trends in increased adult population, domestic consumption of tobacco is expected to continue to increase at the rate of 5 to 6 million pounds per year. At this rate, 133 million pounds redried flue-cured tobacco will be taken for manufacture in the crop year 1966-67; 138 to 139 million pounds in 1967-68; 143 to 145 million pounds in 1968-69; and 148 to 151 million pounds in 1969-70.

Export potential of flue-cured tobacco has increased in recent years. In the United Kingdom, buyers have indicated a desire to purchase significantly more Canadian flue-cured tobacco than they have in the past. Canada's reputation for quality, uniformity and packing has also increased the demand for Canadian flue-cured tobacco in other export markets. The export companies have continued to develop as many markets as the supply has allowed in the past two years.

Availability of labor has continued to be a problem but considerable progress has been made in moving

TABLE 1.—FLUE-CURED TOBACCO: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE, CANADA, 1954-58 TO 1966-67, (CROP YEAR OCTOBER 1—SEPTEMBER 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66	1966–67 (Estimated)
	thousand pounds redried weight				
Stocks at beginning	138,180	169,197	196,843	165,772	135,800
Production	140,049	160,134	129,701	135,028	183,000
Imports	99	133	175	—	—
Total supply	278,328	329,464	326,719	300,800	318,800
Exports	35,304	40,687	38,484	37,000[a]	47,800
Taken for manufacture	101,245	110,893	122,463	128,000[b]	133,000
Carryover at end of year	141,779	176,884	165,772	135,800[b]	138,000
	cents per pound				
Average farm price	46.07	51.15	55.61	64.58	
	acres				
Acreage: Maritimes	—	295	715	776	923
Quebec	5,913	5,393	5,445	5,877	5,742
Ontario	111,620	114,690	73,479	86,870	117,471
Other provinces	69	8	—	—	—
Canada	117,602	120,386	79,639	93,523	124,136

[a]Estimated. Actual exports to July 31, 1966, totaled 28.6 million pounds.
[b]Estimated.

more labor into tobacco production. In addition, developments in mechanization, better use of land resources and improved varieties have resulted in improved overall efficiency.

Supplies of flue-cured tobacco appear to be critical in view of the increasing domestic requirement and the export potential. With an estimated carryover of 135.8 million pounds of redried flue-cured tobacco, production of 183 million pounds, a domestic requirement of 133 million pounds in 1966-67 and a need to carry over 138 million pounds for domestic use in the year 1967-68, a maximum of 47.8 million pounds will be available for export.

To satisfy potential domestic withdrawals of 143 million pounds redried weight in 1968-69, will require a carryover of that quantity at the end of 1967-68. To accomplish this, to export 50 million pounds and build up stocks to about a 16-month supply will require a production of approximately 250 million pounds green weight in 1967.

TABLE 2.—BURLEY TOBACCO: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE, CANADA, 1954-58 TO 1966-67 (CROP YEAR OCTOBER 1—SEPTEMBER 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66	1966–67 (Estimated)
			thousand pounds redried weight		
Stocks at beginning	7,381	9,783	7,827	7,739	6,080
Production	6,461	5,429	5,436	3,544	5,175
Imports	—	—	—	—	—
Total supply	13,842	15,212	13,263	11,283	11,255
Exports	1,345	1,895	2,591	2,383[a]	3,000
Taken for manufacture	4,751	4,165	2,933	2,820[a]	2,700
Carryover at end of year	7,746	9,152	7,739	6,080[a]	5,555
			cents per pound		
Average farm price	31.86	38.99	39.07	44.70	
			acres		
Acreage: Ontario	4,935	3,710	2,351	1,939	2,790
Quebec	55	29	47	—	—

[a]Estimated.

TABLE 3.—DARK TOBACCO: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE, CANADA, 1954-58 TO 1966-67 (CROP YEAR OCTOBER 1—SEPTEMBER 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66	1966–67 (Estimated)
			thousand pounds redried weight		
Stocks at beginning	2,129	1,619	1,780	1,904	1,614
Production	993	947	1,586	764	560
Imports	—	—	—	—	—
Total supply	3,122	2,566	3,366	2,668	2,174
Exports	70	10	n.a.	n.a.	n.a.
Taken for manufacture	1,006	899	1,462	1,086[a]	1,090
Carryover at end of year	2,046	1,657	1,904	1,582[a]	1,084
			cents per pound		
Average farm price	27.18	34.29	37.30	42.46	
			acres		
Acreage: Ontario	547	532	437	411	306
Quebec	—	3	20	—	—

[a]Estimated.

TABLE 4.—CIGAR TOBACCO: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE, CANADA, 1954-58 TO 1966-67 (CROP YEAR OCTOBER 1—SEPTEMBER 30)

	Average 1954–58	Average 1959–63	1964–65	1965–66	1966–67 (Estimated)
			thousand pounds redried weight		
Stocks at beginning	11,127	11,025	13,439	11,169	8,865
Production	4,932	7,468	4,991	4,358	3,757
Imports	1,523	2,287	2,794	2,918[a]	2,900
Total supply	17,582	20,780	21,224	18,445	15,522
Exports	52	5	n.a.	n.a.	n.a.
Taken for manufacture	6,907	8,521	10,055	9,580[a]	9,600
Carryover at end of year	10,623	12,254	11,169	8,865[a]	5,922
			cents per pound		
Average farm price	22.42	26.43	25.99	25.26	
			acres		
Acreage: Quebec	3,594	3,828	2,318	3,108	2,544

[a]Estimated.

TABLE 5.—PIPE TOBACCO: ACREAGE IN CANADA, 1954-58 TO 1966

	Average 1954–58	Average 1959–63	1964	1965	1966 (Estimated)
			acres		
Acreage: Quebec	1,327	905	504	363	399

CEREAL, OILSEED AND FORAGE CROP SEEDS

PEDIGREED CEREAL AND OILSEED CROP SEEDS

Situation

The combined inspected acreage of wheat, oats and barley in 1966 was 39 per cent more than in 1965 and estimated production is 35 per cent larger. Yields in Western Canada were generally above average and quality good. Germination should be high since there was relatively little damage from frost and unfavorable harvest weather which seriously affected seed quality in many areas of the Prairies last year. In Ontario, both oats and barley are rather lightweight and in some areas discolored. The main increase in over-all production of pedigreed cereals occurred in wheat but both acreage and production of oats and barley were substantially larger than in 1965. The white bean crop in Ontario is expected to be somewhat less than in 1965. Excessive heat and drought at a critical time reduced yields of Seaway, the main early variety. However, the other principal variety, Sanilac, is expected to yield fairly well. Acreage of hybrid corn seed in Ontario was the largest ever, amounting to nearly 11,000 acres. A preliminary estimate of seed production has been placed at about 900,000 bushels. Yields may be less than in 1965 but above average.

Wheat—Production of pedigreed wheat in 1966 is estimated at 9.2 million bushels compared to 7.2 million bushels last year. There was a substantial increase in both acreage and production in Manitoba and Saskatchewan over 1965. Alberta's inspected acreage and production was about the same as a year ago. The increase of Manitou highlighted seed wheat production. From about 200,000 bushels in 1965—less than 3 per cent of total seed wheat production—the variety was multiplied in 1966 to an estimated 5,000,000 bushels, more than half of the total pedigreed wheat crop. Production was about evenly divided between Manitoba and Saskatchewan with a small acreage in Alberta. Selkirk production is estimated at about 1,000,000 bushels, Canthatch at 475,000 bushels and Pembina at 180,000 bushels—all well under last year's levels. Production of Thatcher, which was nearly all produced in Alberta, is estimated at about

900,000 bushels, slightly higher than in 1965. Winter wheat production was increased slightly in Ontario where the production of Talbot increased to about 225,000 bushels from 70,000 bushels a year ago. Genesee production was down to 340,000 bushels. Production of the variety Winalta in Alberta is estimated at about one-half million bushels. Durum wheat production increased from a year ago to about 200,000 bushels, 175,000 bushels of which was Stewart '63.

Oats—A substantial increase in both acreage and production in Ontario was mainly responsible for the national increase, although there were larger crops in nearly every province. Production of Garry accounted for about half of the total crop. The new variety, Harmon, released for multiplication in 1966, was grown on over 8,000 acres for an estimated production of about 600,000 bushels, half of which was produced in Manitoba and the balance in Saskatchewan and Alberta. This variety is very similar to Rodney in most characteristics but is resistant to race 7A of oat stem rust and is usually higher-yielding. There is considerable interest in Ontario in the variety Stormont, released in 1965, and production is estimated at about 100,000 bushels. The variety is earlier than Garry, has improved lodging resistance and under high fertility has outyielded both Garry and Rodney.

Barley—The variety Conquest, released for multiplication in 1965, accounted for over 60 per cent of the crop. Production of this variety, estimated at about 2.5 million bushels, was about evenly divided between the three Prairie Provinces with a small production in Ontario. Production of Galt, released in 1966, is estimated at about 30,000 bushels, most of which was in Alberta. This is a six-rowed, semi-smooth-awned feed barley, earlier, and with stronger straw than Husky. It has proved superior in yields to all other varieties in parts of Alberta and Saskatchewan. Twenty other varieties accounted for the balance of production, the most important of which are Herta, Betzes and Compana.

Oilseed Crops—Production of flax was about 53,000 bushels less than in 1965, the reduction being due to reduced yields and decreased acreage. Quality of the crop, on the average, is reported to be quite good. The main varieties are Noralta, Redwood and Raja. Rapeseed acreage was more than 50 per cent larger than in 1965 but estimated production was only 30 per cent higher. The major varieties are Echo, with an estimated production of 1,800,000 pounds and Target, estimated at 800,000 pounds. There was a small increase in both inspected acreage and estimated production of soybeans. Yields were generally good and the quality is expected to be at least up to average. The principal variety is Harosoy 63 which accounted for about three-quarters of the total acreage inspected.

Outlook

Wheat—With production well above that of 1965 and no problems anticipated with respect to germination and quality, there should be adequate supplies of the principal varieties with the exception of Manitou. Although production of Selkirk, Pembina and Canthatch was down, it is expected that there will be less demand for these varieties which will be supplanted by Manitou. The increase in production of Manitou seed, in the second year since release, while great, is still far short of expected Canadian seed needs in 1967. As a result the current restrictions on exports will continue until after the 1967 seedings. However, it is anticipated that the 1967 Manitou seed crop will produce adequate supplies to meet all requirements in Canada and provide seed for export. It is expected that there will be a strong market for this variety in the United States for seeding in 1968. Indications are that there will be a larger acreage in pedigreed winter wheat in Ontario in 1967 than in 1966 based on domestic sales of registered seed this fall.

Oats and Barley—No supply difficulties are expected for the 1967 planting season with respect to either of these crops. There are larger stocks available in all major producing provinces. Although the quality of Ontario pedigreed seed oats is not good, the increased production should compensate for this and provide adequate supplies for domestic use in Eastern Canada and export commitments. Continued emphasis on pedigreed seed in Quebec has resulted in a larger crop which will likely mean that a smaller quantity than usual will be required from Ontario and Western Canada to meet the needs of the province. No problems should be encountered in obtaining the necessary supplementary supplies.

Oilseed crops—It is expected that supplies of pedigreed seed of flax, and soybeans will be adequate. However, seed supplies of rape may not be sufficient to meet the demand if the present attractive price for commercial rapeseed continues.

FORAGE CROP SEEDS

Situation

Production of the legume seed crops is expected to be less than in 1965. A record crop of timothy seed highlights production of the grass crops; production of the other kinds, excepting meadow fescue, was smaller than a year ago.

Alfalfa—It is expected that the alfalfa seed crop will be smaller than in 1965, perhaps only half of an average crop. There was less acreage saved for seed in

Ontario and the production in the Prairie Provinces, where heavy growth curtailed seed production, will be down from last year. Production of certified Vernal is estimated at about 500,000 pounds and certified Rambler and Beaver each at about 75,000 pounds.

Red clover—A smaller crop of double-cut red clover seed than in 1965 is expected in Eastern Canada where most of this crop is grown. Acreage was less and many fields intended for seed use were thin and short. About an average crop of single-cut red clover seed is forecast in Western Canada. These would indicate that about five million pounds may be expected. The production of licensed and unlicensed private varieties showed a further increase in 1966 with 7 such varieties for 3,154 acres inspected. Most of these were produced for export under the OECD Herbage Seed Scheme.

Alsike clover—There was a smaller acreage of alsike than in 1965 and yields are not reported to be high. An average crop of about 9 million pounds is expected, about half the record production of 1965.

Sweet clover—Production of sweet clover seed is expected to be smaller than in 1965. Acreage was down but yields and quality are reported to be quite good.

Bird's-foot trefoil—Yields of bird's-foot trefoil seed are expected to be lower than in 1965 due to frequent rains during the harvest period causing much seed shattering and the crop will probably be under last year's level of about 800,000 pounds. All production is centred in Ontario, mainly in the southwest.

Timothy—A record crop of nearly 25 million pounds of timothy seed was produced in 1966. This was almost twice the 1965 production which, with a record large carry-over, will bring total supplies of seed to about 30 million pounds. Nearly half of the total crop was the Climax variety. A good to excellent hay crop in Ontario and Quebec was mainly responsible for the larger crop of common timothy. Acreage of Climax was again increased substantially in the Prairie Provinces where most of this variety was grown. There were 44,000 acres inspected compared to 37,000 in 1965. Yields were also somewhat higher except in Saskatchewan where the out-turn per acre, although about average, was well under the exceptionally good yields of 1965. The production of unlicensed and licensed private varieties was more than twice that of 1965 and amounted to over two million pounds. This seed was mainly produced in Manitoba and Alberta with most of it for export under the OECD Herbage Seed Scheme. There were 19 varieties in production under this program.

Bromegrass—Bromegrass seed production is estimated at 4.6 million pounds—23 per cent less than in 1965. The smaller crop was due to production in Saskatchewan being only about half of last year's crop. This is attributed to a dry period in early spring. While the stands were heavy, seed yields were not good. There were about 5,233 acres of pedigreed varieties inspected in 1966, mainly Saratoga and Carlton, an increase of 1,967 acres over 1965.

Crested wheat grass—Production of crested wheat grass is estimated at 855,000 pounds—about 16 per cent less than last year's production. This was the smallest crop in ten years and is due to a smaller production in Saskatchewan where conditions were not favorable for good seed yields.

Meadow fescue—The meadow fescue seed crop, mainly produced in Manitoba, is placed at 5,217,000 pounds—12 per cent larger than the 1965 crop and the largest since 1962. Production of certified seed of Ensign is estimated at 700,000 pounds.

Creeping red fescue—Estimated production of creeping red fescue, all produced in Alberta and British Columbia, is placed at 17,590,000 pounds, 15 per cent less than the 1965 near-record crop. Acreage was somewhat larger than a year ago but yields were reduced due to very dry weather during the early growing period.

Kentucky bluegrass—Common Kentucky bluegrass production, all produced in Manitoba, is estimated at 250,000 pounds. There is an estimated production of 20,000 pounds of certified varieties in Alberta.

Russian wild ryegrass—Russian wild ryegrass estimated production is about 300,000 pounds in Alberta and 70,000 pounds in Saskatchewan. This compares to a total crop in 1965 of 239,000 pounds when production in Alberta was only 160,000 pounds.

Other grasses—Estimated production of other grass crops is 300,000 pounds of pubescent wheat grass in Alberta, 38,000 pounds of intermediate wheat grass in Manitoba and Alberta, and 175,000 pounds of miscellaneous other kinds produced in Manitoba, Alberta and British Columbia.

Outlook

The market in general for forage seeds is not as active as a year ago and prices to growers for most kinds are lower than in 1965. Retail prices for the 1967 planting season are likely to be lower for timothy, particularly certified Climax, meadow fescue, creeping red fescue and alsike and higher for bromegrass and crested wheat grass. Alfalfa and double-cut red clover prices will probably be as high or higher than in 1966. No shortage of the principal kinds is expected.

The market for Canadian commercial forage seed in Europe continues to be affected by import restrictions against non-certified seed set up by some European countries. Some of these countries which have been traditional markets have enacted legislation to limit imports to certified seed of varieties on their national lists of varieties. In some cases the legislation has not yet come into full effect but will within the next few years. For this reason there is still some market for Canadian commercial and certified seed. The EEC Council of Ministers in June 1966 adopted a decision and a number of directives which constitute the first step toward harmonizing laws and regulations concerning agricultural seeds. The directives, which are to be implemented in principle by July 1, 1969, will require legislation by each member country to restrict sales to certified seed of varieties approved within the EEC Community. At present there are no Canadian varieties on the national lists of varieties of any European country but there are many now under tests. Samples of Canadian varieties have been sent for testing to eleven countries in Europe as well as to India, Japan, Chile and Peru. A program to test foreign varieties in Canada for performance and seed production potential has been set up with a number of varieties already under test at Beaverlodge, Harrow and Ottawa.

The multiplication of foreign varieties in Canada for export under the OECD Herbage Seed Scheme continues to expand and provides a means of replacing traditional exports of commercial seed with certified seed of varieties acceptable in these European countries.

Alfalfa—With production of alfalfa seed expected to be smaller than in 1965, supplies will not be adequate to meet total domestic needs although there may be sufficient to meet the demand for Canadian produced seed, most of which is commercial. The demand is increasing for certified seed of Vernal and the Flemish type varieties, good quality seed of which will again be available in the United States.

Red clover—The demand for double-cut red clover seed is decreasing. In spite of this, supplies probably will not be sufficient to meet domestic needs. Good quality seed, however, will be available in the United States as in past years to supplement Canadian stocks. There will be adequate supplies of single-cut red clover seed for domestic needs since requirements are relatively small leaving fairly substantial supplies available for export. The market for single-cut red clover is not strong but it is believed that the crop will be moved.

Alsike clover—With supplies expected to be closer to normal levels and much less than a year ago, it is believed that the export market will take most of the crop although the market is not as active as in 1965 when seed was exported to 19 countries for a total of over 13 million pounds, much the highest on record.

Sweet clover—In spite of a smaller crop of good quality seed this year a market is slow to develop due to a large carry-over in the hands of the trade and growers.

Bird's-foot trefoil—Although production will probably be lower than a year ago, there was a substantial carry-over and total supplies will be in excess of domestic requirements. The export demand is not expected to be as strong as in recent years because of a larger crop in the United States—the principal market.

Timothy—Supplies of both common and certified Climax timothy seed are the largest ever and much in excess of normal domestic needs. The export demand for common and Climax is not expected to be strong since the United States production of common was 20 per cent larger than average and also because of the increasing trend in Europe toward the restriction of imports to certified seed of varieties appearing on national lists. While Climax is not now on any national list in Europe, there is still some market for certified seed of this variety. There is also expected to be some movement of common timothy to some European countries and to the United States. Prices to growers are the lowest in years for common and the lowest ever for certified Climax. These low prices for Climax are expected to result in considerable acreage of this variety being ploughed up and put into other crops for the 1967 season. The increased production of forage varieties under the OECD Herbage Seed Scheme will result in the export of about 1.5 million pounds.

Bromegrass—There is a strong market for bromegrass seed compared with that of a year ago and it is expected that seed may be in short supply for the 1967 season. The market is largely based on the price at which U.S. produced seed can be imported.

Crested wheat grass—With the small crop in Canada and a stepped-up use in the United States for a seeding-down program, a very strong but artificial market has developed this season. In contrast, there are indications that Canadian farm use is declining.

Creeping red fescue—While supplies are much in excess of domestic requirements, trade reports indicate that most of the crop will probably be marketed. The principal market is the United States with some seed also usually moving to some European countries.

Meadow fescue—With a near-record crop produced, the surplus over domestic requirements is expected to be marketed with some difficulty.

Kentucky bluegrass—As in recent years, production of Kentucky bluegrass will not meet domestic requirements but no difficulty should be encountered in obtaining seed from the United States and European sources.

TABLE 1.—ACREAGE AND ESTIMATED PRODUCTION OF REGISTERED AND CERTIFIED WHEAT, OATS, BARLEY AND BEANS, 1965 AND 1966

	Wheat		Oats		Barley		White Beans	
	Acres	Bushels	Acres	Bushels	Acres	Bushels	Acres	Bushels
	thousands							
Maritimes	—	2	1	45	—	6	—	—
Quebec	—	5	9	557	—	3	—	—
Ontario	11	600	37	2,737	7	448	4	100
Manitoba	103	3,087	10	649	16	753	—	—
Saskatchewan	104	3,593	6	456	20	1,173	—	—
Alberta	47	1,964	11	831	27	1,609	—	—
British Columbia	—	13	1	21	—	22	—	—
Canada 1966	265	9,264	75	5,296	70	4,014	4	100
Canada 1965	192	7,255	53	3,637	49	2,829	4	115

TABLE 2.—ACREAGE AND ESTIMATED PRODUCTION OF REGISTERED AND CERTIFIED FLAX, RAPESEED AND SOYBEANS, 1965 AND 1966

	Flax		Rapeseed		Soybeans	
	Acres	Bushels	Acres	Pounds	Acres	Bushels
Quebec	340	5,990	—	—	—	—
Ontario	197	4,085	—	—	4,507	185,480
Manitoba	10,658	146,103	876	676,850	36	480
Saskatchewan	7,478	132,925	1,657	1,486,100	—	—
Alberta	6,466	106,570	675	511,500	—	—
Canada 1966	25,139	395,673	3,208	2,674,450	4,543	185,960
Canada 1965	26,832	448,292	2,028	2,056,759	4,488	171,087

TABLE 3.—ALFALFA SEED PRODUCTION IN CANADA BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
	thousand pounds				
Canada	2,942	5,087	4,211	3,160	1,835
Ontario	493	762	1,275	1,140	400
Manitoba	785	1,482	1,100	250	500
Saskatchewan	424	660	600	200	125
Alberta	1,128	2,088	1,211	1,500	750
British Columbia	112	95	25	70	60

TABLE 4.—ALFALFA SEED: SUPPLIES AND DISTRIBUTION, CANADA 1955-66 (CROP YEAR ENDING JUNE 30)

	Average 1955–59	Average 1960–64	1964–65	1965–66	1966–67
	thousand pounds				
Stocks, beginning of year	659	1,567	1,235	2,833	1,464
Production	2,942	5,087	4,211	3,160	
Imports	3,485	2,714	4,104	3,483	
Total Supply	7,086	9,368	9,550	9,476	
Exports	524	2,025	1,338	773	
Available for domestic use	6,562	7,343	8,212	8,703	

TABLE 5.—ALSIKE CLOVER SEED PRODUCTION IN CANADA BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
	thousand pounds				
Canada	7,457	10,524	7,183	18,031	9,670
Ontario	53	15	42	6	—
Manitoba	99	39	60	50	20
Saskatchewan	45	137	10	—	250
Alberta	6,500	8,515	5,671	14,500	7,000
British Columbia	760	1,818	1,400	3,475	2,400

TABLE 6.—ALSIKE CLOVER SEED: SUPPLIES AND DISTRIBUTION, CANADA 1955-66 (CROP YEAR ENDING JUNE 30)

	Average 1955–59	Average 1960–64	1964–65	1965–66	1966–67
	thousand pounds				
Stocks, beginning of year	1,121	3,198	2,780	1,459	3,654
Production	7,457	10,524	7,183	18,031	
Imports	1	3	18	3	
Total supply	8,579	13,725	9,981	19,493	
Exports	5,104	8,694	6,609	13,285	
Available for domestic use	3,475	5,031	3,372	6,208	

TABLE 7.—RED CLOVER SEED PRODUCTION IN CANADA BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
	thousand pounds				
Canada	8,860	10,533	9,852	10,950	9,972
Maritimes	46	40	85	—	40
Quebec	509	434	427	200	300
Ontario	3,427	3,767	5,218	3,475	850
Manitoba	377	419	500	300	450
Saskatchewan	888	1,356	365	200	1,512
Alberta	3,077	3,955	2,930	6,000	6,000
British Columbia	536	582	327	775	820

TABLE 8.—RED CLOVER SEED: SUPPLIES AND DISTRIBUTION, CANADA 1955-66 (CROP YEAR ENDING JUNE 30)

	Average 1955–59	Average 1960–64	1964–65	1965–66	1966–67
	thousand pounds				
Stocks, beginning of year	1,569	4,002	1,198	2,679	3,904
Production	8,860	10,533	9,852	10,950	
Imports	1,947	1,847	242	514	
Total supply	12,376	16,382	11,292	14,143	
Exports	5,969	7,923	3,623	6,683	
Available for domestic use	6,407	8,459	7,669	7,460	

TABLE 9.—SWEET CLOVER SEED PRODUCTION IN CANADA BY PROVINCE, 1954-66

	Average 1954–58	Average 1958–63	1964	1965	1966 (Preliminary)
	thousand pounds				
Canada	16,257	12,107	12,510	11,330	7,850
Ontario	629	498	351	330	200
Manitoba	6,319	4,898	5,000	3,500	3,250
Saskatchewan	3,800	2,140	3,500	1,000	1,500
Alberta	5,115	4,118	2,459	5,000	2,000
British Columbia	394	453	1,200	1,500	900

TABLE 10.—SWEET CLOVER SEED: SUPPLIES AND DISTRIBUTION, CANADA 1955-66 (CROP YEAR ENDING JUNE 30)

	Average 1955–59	Average 1960–64	1964–65	1965–66	1966–67
	thousand pounds				
Stocks, beginning of year	3,880	3,076	5,491	4,663	7,517
Production	16,257	12,107	12,510	11,330	
Imports	3	5	—	—	
Total Supply	20,140	15,188	18,001	15,993	
Exports	12,596	11,785	9,722	8,250	
Available for domestic use	7,544	3,403	8,279	7,743	

TABLE 11.—TIMOTHY SEED PRODUCTION IN CANADA BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
	thousand pounds				
Canada	16,136	16,233	14,042	16,965	24,975
Maritimes	780	285	675	—	400
Quebec	3,722	2,123	3,264	1,500	2,600
Ontario	10,701	10,950	7,324	4,090	7,400
Manitoba	239	1,074	1,200	4,500	5,600
Saskatchewan	87	910	420	4,500	4,000
Alberta	450	743	1,009	2,000	4,500
British Columbia	157	148	150	375	475

TABLE 12.—TIMOTHY SEED: SUPPLIES AND DISTRIBUTION, CANADA 1955-66 (CROP YEAR ENDING JUNE 30)

	Average 1955–59	Average 1960–64	1964–65	1965–66	1966–67
			thousand pounds		
Stocks, beginning of year	1,560	2,084	468	1,230	4,621
Production	16,136	16,233	14,042	16,965	
Imports	682	2,957	3,108	3,768	
Total Supply	18,378	21,274	17,618	21,963	
Exports	6,384	5,343	5,563	7,808	
Available for domestic use	11,994	15,931	12,055	14,155	

TABLE 13.—BROMEGRASS SEED PRODUCTION IN CANADA BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
			thousand pounds		
Canada	6,722	7,904	7,632	6,025	4,620
Manitoba	124	256	100	150	200
Saskatchewan	2,200	2,600	1,600	2,750	1,300
Alberta	4,295	4,891	5,807	3,000	3,000
British Columbia	103	157	125	125	120

TABLE 14.—BROMEGRASS SEED: SUPPLIES AND DISTRIBUTION, CANADA 1955-66 (CROP YEAR ENDING JUNE 30)

	Average 1955–59	Average 1960–64	1964–65	1965–66	1966–67
			thousand pounds		
Stocks, beginning of year	977	1,845	839	1,856	1,844
Production	6,722	7,904	7,632	6,205	
Imports	483	514	784	388	
Total Supply	8,182	10,263	9,255	8,449	
Exports	4,416	3,292	2,144	2,878	
Available for domestic use	3,766	6,971	7,111	5,571	

TABLE 15.—CRESTED WHEATGRASS SEED PRODUCTION IN CANADA BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
			thousand pounds		
Canada	1,102	2,409	1,531	1,015	855
Manitoba	15	82	100	45	20
Saskatchewan	870	1,730	800	500	350
Alberta	209	562	581	440	455
British Columbia	8	35	50	30	30

TABLE 16.—CRESTED WHEATGRASS: SUPPLIES AND DISTRIBUTION, CANADA 1955-66
(CROP YEAR ENDING JUNE 30)

	Average 1955–59	Average 1960–64	1964–65	1965–66	1966–67
	thousand pounds				
Stocks, beginning of year	119	1,005	853	587	499
Production	1,102	2,409	1,531	1,015	
Imports	193	14	25	—	
Total Supply	1,414	3,428	2,409	1,602	
Exports	311	1,077	943	599	
Available for domestic use	1,103	2,351	1,466	1,003	

TABLE 17.—CREEPING RED FESCUE SEED PRODUCTION IN CANADA BY PROVINCE, 1954-66

	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
	thousand pounds				
Canada	9,463	13,875	11,023	20,600	17,590
Alberta	8,370	11,095	8,923	17,000	14,500
British Columbia	1,093	2,780	2,100	3,600	3,090

TABLE 18.—CREEPING RED FESCUE: SUPPLIES AND DISTRIBUTION, CANADA, 1955-66
(CROP YEAR ENDING JUNE 30)

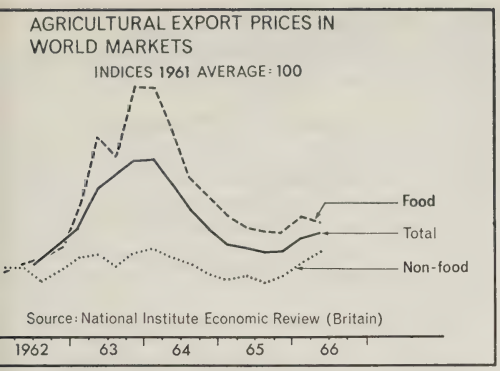
	Average 1955–59	Average 1960–64	1964–65	1965–66	1966–67
	thousand pounds				
Stocks, beginning of year	1,370	6,322	1,603	978	3,052
Production	9,463	13,875	11,023	20,600	
Imports	45	47	24	28	
Total Supply	10,878	20,244	12,650	21,606	
Exports	7,679	13,230	10,723	16,421	
Available for domestic use	3,199	7,014	1,927	4,185	

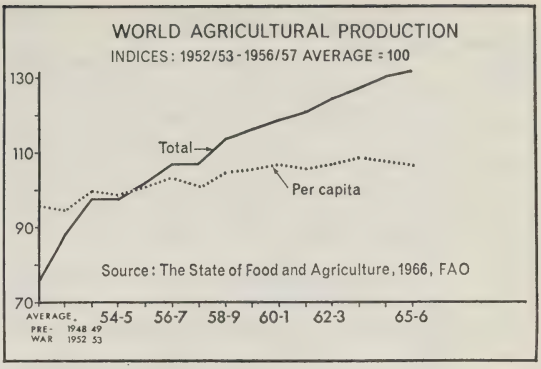
TABLE 19.—OTHER GRASS SEED PRODUCTION IN CANADA BY KINDS, 1954-66

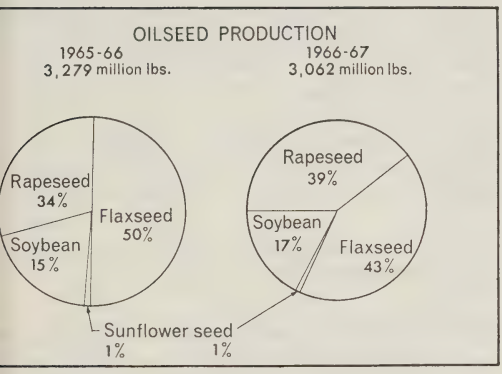
	Average 1954–58	Average 1959–63	1964	1965	1966 (Preliminary)
	thousand pounds				
Canada Bluegrass	75	48	40	—	12
Kentucky Bluegrass	764	340	116	208	270
Meadow Fescue	1,207	3,323	1,274	4,655	5,217
Orchard Grass	4	14	55	39	43

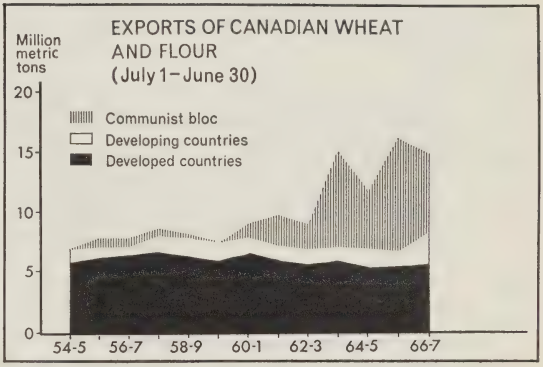
TABLE 20.—MEADOW FESCUE SEED: SUPPLIES AND DISTRIBUTION, CANADA, 1955-66
(CROP YEAR ENDING JUNE 30)

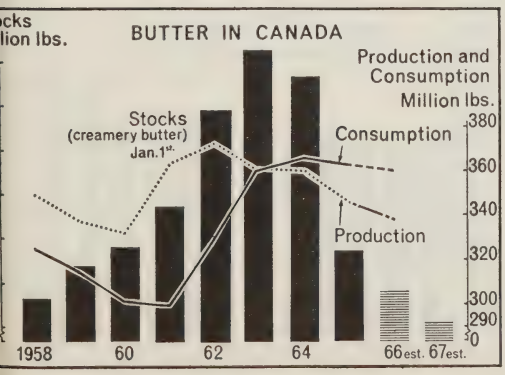
	Average 1955–59	Average 1960–64	1964–65	1965–66	1966–67
	thousand pounds				
Stocks, beginning of year	314	1,035	235	161	183
Production	1,207	3,323	1,774	4,655	
Imports	148	19	28	2	
Total Supply	1,669	4,377	2,037	4,818	
Exports	1,136	2,842	1,845	4,168	
Available for domestic use	533	1,535	192	650	

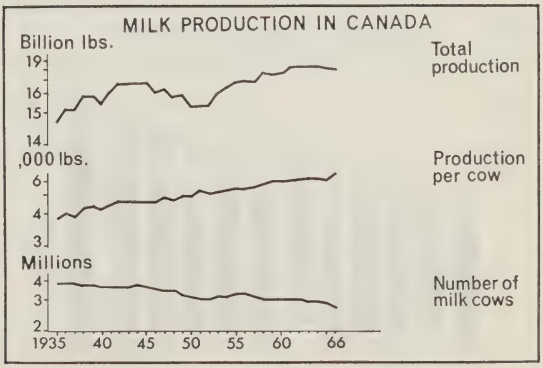

AGRICULTURAL EXPORT PRICES IN WORLD MARKETS
INDICES 1961 AVERAGE = 100
Food
Total
Non-food
Source: National Institute Economic Review (Britain)
1962
63
64
65
66

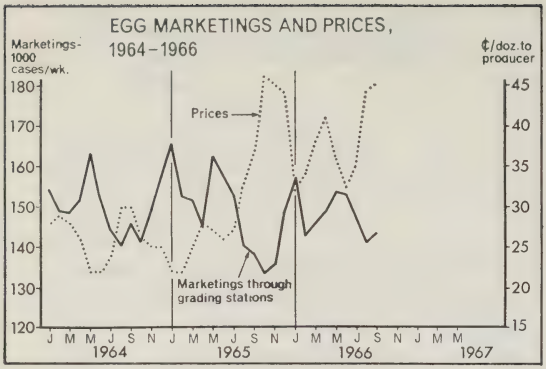

WORLD AGRICULTURAL PRODUCTION
INDICES: 1952/53 - 1956/57 AVERAGE = 100
130
110
90
70
Total
Per capita
Source: The State of Food and Agriculture, 1966, FAO
AVERAGE, PRE-WAR 1948 49 1952 53
54-5
56-7
58-9
60-1
62-3
65-6

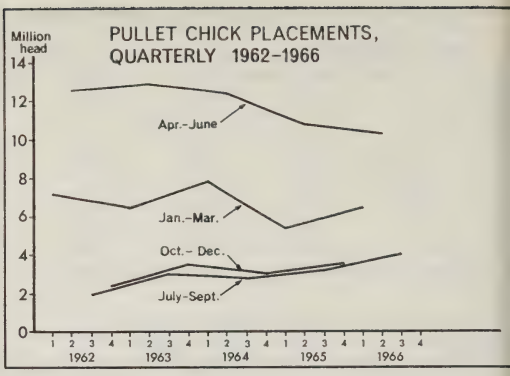

OILSEED PRODUCTION
1965-66
3,279 million lbs.
1966-67
3,062 million lbs.
Rapeseed 34%
Flaxseed 50%
Soybean 15%
Sunflower seed 1%
Rapeseed 39%
Soybean 17%
Flaxseed 43%
Sunflower seed 1%

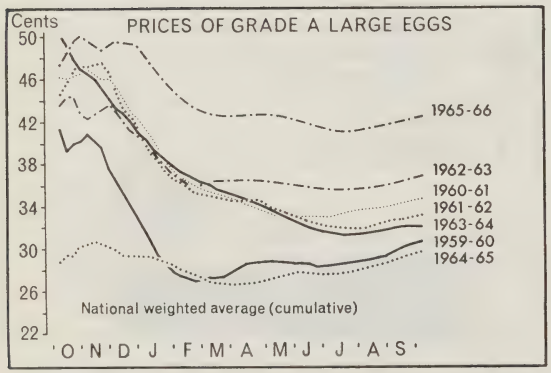

EXPORTS OF CANADIAN WHEAT AND FLOUR
(July 1 – June 30)
Million metric tons
20
15
10
5
0
Communist bloc
Developing countries
Developed countries
54-5
56-7
58-9
60-1
62-3
64-5
66-7

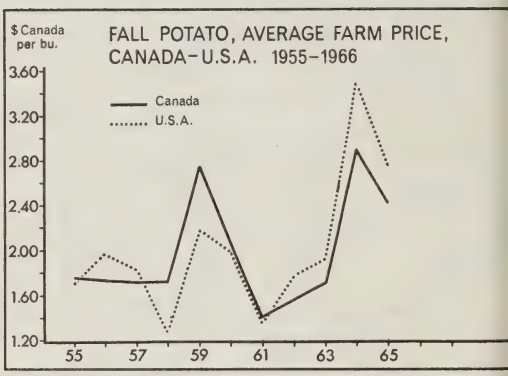

BUTTER IN CANADA
Production and Consumption
Million lbs.
Stocks
(creamery butter)
Jan. 1st.
Consumption
Production
380
360
340
320
300
290
0
1958
60
62
64
66 est.
67 est.

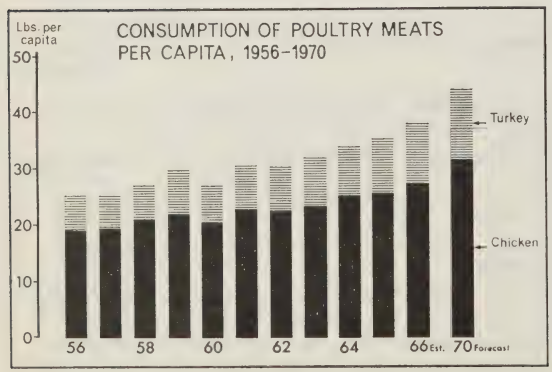

MILK PRODUCTION IN CANADA
Billion lbs.
19
16
15
14
Total production
,000 lbs.
6
4
3
Production per cow
Millions
4
3
2
Number of milk cows
1935
40
45
50
55
60
66

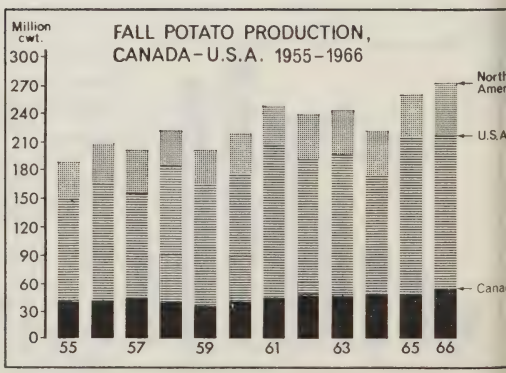

EGG MARKETINGS AND PRICES,
1964–1966
Marketings-1000 cases/wk.
¢/doz. to producer
Prices
Marketings through grading stations
J M M J S N J M M J S N J M M J S N J M M
1964
1965
1966
1967


Million head
PULLET CHICK PLACEMENTS,
QUARTERLY 1962–1966
Apr.–June
Jan.–Mar.
Oct.– Dec.
July–Sept.
1962
1963
1964
1965
1966


Cents
PRICES OF GRADE A LARGE EGGS
1965-66
1962-63
1960-61
1961-62
1963-64
1959-60
1964-65
National weighted average (cumulative)
'O 'N 'D 'J 'F 'M 'A 'M 'J 'J 'A 'S '


$ Canada per bu.
FALL POTATO, AVERAGE FARM PRICE,
CANADA–U.S.A. 1955–1966
Canada
U.S.A.


Lbs. per capita
CONSUMPTION OF POULTRY MEATS
PER CAPITA, 1956–1970
Turkey
Chicken
Est.
Forecast


Million cwt.
FALL POTATO PRODUCTION,
CANADA–U.S.A. 1955–1966
U.S.A

AGRICULTURAL STABILIZATION PROGRAMS

AGRICULTURAL PRODUCTS MARKETING ACT, 1949

The Agricultural Products Marketing Act, passed in 1949 and amended April 12, 1957, provides for the extension, to interprovincial and export trade, of all or any powers exercised by provincial boards established under provincial legislation for the marketing of agricultural products within the province. The Governor in Council may grant further authority to fix, impose and collect levies or charges from persons engaged in the production or marketing of the whole or any part of any agricultural product and for such purpose to classify such persons into groups and fix the levies or charges payable by the members of the different groups in different amounts, to use such levies or charges for the purpose of such board or agency, including the creation of reserves, and the payment of expenses and losses resulting from the sale or disposal of any such agricultural product, and the equalization or adjustment among producers of any agricultural product of moneys realized from the sale thereof during such period or periods of time as the board or agency may determine.

As at November 15, 1966, the following boards had their authority extended with respect to marketing agricultural products in interprovincial and export trade:

The British Columbia Fruit Board
The British Columbia Coast Vegetable Marketing Board
The British Columbia Interior Vegetable Marketing Board
The British Columbia Broiler Marketing Board
The Alberta Potato Commission
The Saskatchewan Broiler Chicken Producers' Marketing Board
The Ontario Flue-cured Tobacco Growers' Marketing Board

With respect to Ontario vegetables:
The Farm Products Marketing Board of Ontario
The Ontario Vegetable Growers' Marketing Board

With respect to Ontario onions:
The Farm Products Marketing Board of Ontario
The Ontario Onion Producers' Marketing Board

With respect to Ontario asparagus for processing:
The Farm Products Marketing Board of Ontario
The Ontario Asparagus Growers' Marketing Board

With respect to Ontario beans:
The Farm Products Marketing Board of Ontario
The Ontario Bean Producers' Marketing Board

With respect to Ontario wheat:
The Farm Products Marketing Board of Ontario
The Ontario Wheat Producers' Marketing Board

With respect to Ontario strawberries and raspberries for processing:
The Farm Products Marketing Board of Ontario
The Ontario Berry Growers' Marketing Board

With respect to Ontario grapes for processing:
The Farm Products Marketing Board of Ontario
The Ontario Grape Growers' Marketing Board

With respect to Ontario fresh grapes:
The Farm Products Marketing Board of Ontario
The Ontario Fresh Grape Growers' Marketing Board

With respect to Ontario fruit for processing:
The Farm Products Marketing Board of Ontario
The Ontario Tender Fruit Growers' Marketing Board

With respect to Ontario fresh fruit:
The Farm Products Marketing Board of Ontario
The Ontario Fresh Fruit Growers' Marketing Board

With respect to Ontario hogs:
The Farm Products Marketing Board of Ontario
The Ontario Hog Producers' Marketing Board

With respect to Ontario eggs and fowl:
The Farm Products Marketing Board of Ontario
The Ontario Egg and Fowl Producers' Marketing Board

With respect to Ontario broiler chickens:
The Farm Products Marketing Board of Ontario
The Ontario Broiler Chicken Producers' Marketing Board

With respect to Ontario cheese:
The Milk Commission of Ontario
The Ontario Milk Marketing Board

With respect to Ontario milk:
The Milk Commission of Ontario
The Ontario Milk Marketing Board

The Quebec North-West Pulpwood Producers' Board
The Rimouski-Matapedia Pulpwood Producers' Board
The Rimouski-Matane Wood Producers' Board
The Gaspesia Pulpwood Producers' Board
The Temiscamingue Pulpwood Producers' Board

The Levis and Bellechasse Pulpwood Producers' Board
The Ste. Anne de la Pocatière Region Wood Producers' Board
The Pontiac Forest Products Producers' Board
The Gatineau Valley Forest Products Producers' Board
The Lotbinière Forest Products Producers' Board
The Megantic Forest Products Producers' Board
The Rimouski-Temiscouata Forest Products Producers' Board
The Rimouski-Wood Producers' Syndicate
The Eastern Townships Region Wood Producers' Syndicate
The Quebec South Maple Sugar and Syrup Producers' Board
The Hull Region Milk Producers' Board
The Quebec Apple Growers' Marketing Board
The Quebec Flue-cured Tobacco Producers' Board
The Eggs for Consumption Producers' Federation
The New Brunswick Hog Marketing Board
The Nova Scotia Marketing Board, with respect to wool
The Nova Scotia Marketing Board, with respect to hogs
The Prince Edward Island Potato Marketing Board

In addition, the following Boards had authority as at November 15, 1966 to collect levies as detailed below:

The Ontario Bean Producers' Marketing Board
Authority to collect levies not to exceed the rate of 77 cents for each 100 pounds of beans marketed, to be in effect for the period up to August 14, 1967.

The Ontario Wheat Producers' Marketing Board
Authority to collect levies not to exceed the rate of 19 cents per bushel of wheat marketed, to be in effect for the period up to June 30, 1967.

The Ontario Onion Producers' Marketing Board
Authority to collect levies not to exceed the rate of 5 cents for each 50-pound bag of onions marketed, to be in effect for the period up to June 1, 1967.

The Ontario Milk Marketing Board
Authority to collect levies not to exceed the rate of 5 cents for each 100 pounds of milk marketed, to be in effect for the period up to March 31, 1967.

The Ontario Tender Fruit Growers' Marketing Board
Authority to collect levies not to exceed the rate of $4 per ton of Bartlett pears marketed, to be in effect for the period up to December 31, 1966.

The Ontario Tender Fruit Growers' Marketing Board
Authority to collect levies not to exceed the rate of $4 per ton of cherries marketed, to be in effect for the period up to December 31, 1966.

The Ontario Tender Fruit Growers' Marketing Board
Authority to collect levies not to exceed the rate of $2 per ton of Kieffer pears marketed, to be in effect for the period up to December 31, 1966.

The Ontario Tender Fruit Growers' Marketing Board
Authority to collect levies not to exceed the rate of $2 per ton of peaches marketed, to be in effect for the period up to December 31, 1966.

The Ontario Tender Fruit Growers' Marketing Board
Authority to collect levies not to exceed the rate of $2 per ton of plums marketed, to be in effect for the period up to December 31, 1966.

COMMODITIES UNDER THE AGRICULTURAL STABILIZATION ACT 1966–67

Commodity	Basic grade and market	Unit	Base price latest 10 year average	Per cent of Base Price	Support price	Effective period and method of support
			dollars	per cent	dollars	
Named Commodities:						
1. Eastern Grains						
(a) Wheat	No. 2 C.E. or better 14 per cent moisture delivered to Ontario elevators	bu.	1.68	80	1.34	July 1/66—June 30/67
(b) Oats	"	bu.	0.71	80	0.57	July 1/66—June 30/67
(c) Barley	"	bu.	1.04	80	0.83	July 1/66—June 30/67
2. Cattle (steers live)	Good delivered Toronto stockyards	cwt.	25.28	80	18.19	Apr. 1/66—Mar. 31/67 Deficiency payment
3. Sheep (lambs live)	Good, national basis	cwt.	20.38	92.2	18.80	Apr. 1/66—Mar. 31/67 Deficiency payment
4. Hogs (carcass warm dressed weight)	Grade A national average producer price	cwt.	27.23	80	21.78	Jan. 1/66—Dec. 31/66 Deficiency payment
5. Butter	Canada First Grade creamery 40-93 score or higher, Montreal	lb.	.579	102	0.59	Apr. 1/66—Mar. 31/67 Offer-to-purchase
6. Cheese	Canada First Grade waxed cheddar basis delivered Belleville or Montreal	lb.	.3474	109	0.38	Apr. 1/66—Mar. 31/67 Offer-to-purchase
7. Eggs	National weighted average producer price for Grade A Large	doz.	.3469	Not yet announced		Oct. 1/66—Sept. 30/67
Designated Commodities:						
1. Manufacturing Milk	Payment being made on butterfat basis	cwt. and 3.5 per cent butterfat	—	—	4.00	Apr. 1/66—Mar. 31/67 Direct payment to producers of 85¢. of which 10¢. are withheld for export aid. Net payment to farmers is 75¢. on milk testing 3.5 per cent butterfat or 21.43¢./lb. butterfat. Surplus of fluid milk is partially eligible for this payment.
2. Sugar Beets	National average grower returns per standard ton of beets yielding 250 lbs. of sugar	ton	13.69	105	14.35	Sept. 1/66—Aug. 31/67 Deficiency payment.
3. Wool	All wool outside of defective grade	lb.	.4321	138.8	0.60	Apr. 1/66—Mar. 31/67 Deficiency payment.

Manufacturing Milk and Cream Price Stabilization Order, 1966—An amendment to this order enables payments by the Agricultural Stabilization Board to manufacturing cream producers to be made at more frequent intervals. (November 17, 1966)

Emergency Fodder Assistance for Eastern Quebec—The Federal Government has approved a plan to contribute to the cost of moving hay by rail from western Quebec to farmers in the lower St. Lawrence region, where drought conditions have resulted in a serious shortage of fodder.

Canadian National Railways will assist in the scheme by reducing freight rates on the emergency hay by one-third. Federal and provincial government contributions will cover actual freight charges, the federal payment being conditional upon an equal contribution by the Province of Quebec. (November 25, 1966)

Canadian Dairy Commission Appointments—The three members of the recently established Canadian Dairy Commission are: S. C. Barry, Deptuy Minister of Agriculture; Jules Thibaudeau, a dairy farmer, Thurso, Quebec; and L. A. Atkinson, Vancouver, British Columbia, general manager of the Fraser Valley Milk Producers' Association.

The consultative committee to the Commission comprises: P. Pariseault, Granby, Quebec; J. L. Dewar, Charlottetown, Prince Edward Island; Leopold Harvey, St. Coeur-de-Marie, County Lac St. Jean, Quebec; G. R. McLaughlin, Beaverton, Ontario; Ellard Powers, Beachburg, Ontario; W. T. Murchie, Toronto, Ontario; J. S. Turnbull, Regina, Saskatchewan; J. L. Bailey, Clover Bar, Alberta. (December 2, 1966)

Sugar Beet Deficiency Payment—The deficiency payment to be made to producers by the Agricultural Stabilization Board on the 1965 sugar beet crop has been set at $6.38 per standard ton. This includes the interim payment of $2 per ton already made in the provinces of Ontario, Manitoba and Alberta. (December 2, 1966)

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AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1965-66

Commodity, grade and market	1965	1965			1966		
	Average	Sept.	Oct.	Nov.	Sept.	Oct.	Nov.
				dollars per cwt.			
CATTLE (weighted average prices at public stockyards)							
Good slaughter steers							
Toronto	24.00	24.50	24.50	25.07	25.97	26.50	26.50
Winnipeg	23.25	23.55	23.45	23.98	24.88	24.98	25.07
Calgary	22.65	22.86	22.65	23.08	24.11	24.22	24.47
Good feeder steers							
Toronto	22.70	23.71	24.00	24.00	27.34	28.00	28.00
Winnipeg	22.05	22.84	22.12	22.52	25.42	24.33	24.62
Calgary	21.95	22.13	22.09	22.26	24.72	25.00	24.88
Good and choice veal calves							
Toronto	30.50	29.32	30.77	31.79	34.42	34.50	34.50
Winnipeg	29.80	27.94	29.73	29.79	35.01	34.41	34.84
Calgary	23.10	—	—	—	26.31	27.00	—
HOGS (weighted average prices at public stockyards, Grade A dressed)							
Toronto	33.40	36.88	35.90	37.58	33.92	33.94	33.79
Winnipeg	31.65	34.93	34.75	36.42	33.68	32.12	30.52
Calgary	28.55	32.00	32.57	33.81	32.71	32.69	30.11
LAMBS (weighted average prices at public stockyards, Good lambs)							
Toronto	26.70	23.44	23.12	23.30	22.99	22.64	24.83
Winnipeg	21.30	19.94	21.46	20.11	19.19	20.17	20.57
Calgary	20.75	19.54	19.35	18.46	18.17	18.61	19.17
FLUID MILK (f.o.b. factory)							
Halifax	5.71	5.71	5.71	5.71	6.10	6.10	6.10
Montreal	5.10	5.10	5.10	5.10	5.55	5.55	5.55
Toronto	5.26	5.26	5.26	5.26	5.75	5.75	5.75
Winnipeg	5.20	5.20	5.20	5.20	5.48	5.48	5.48
Vancouver	6.19	6.31	6.39	6.41	6.69	6.72	6.72
MANUFACTURING MILK (average farm value)[a]							
Nova Scotia	2.74	2.74	2.74	2.80	3.06	—	—
New Brunswick	3.01	3.01	3.08	3.05	3.27	—	—
Quebec[b]	3.05	3.00	3.27	3.29	2.91	—	—
Ontario	2.99	2.99	3.14	3.24	3.12	—	—
British Columbia	3.03	3.08	3.09	3.06	3.28	—	—
				cents per lb.			
BUTTERFAT (for butter, average farm value)[a]							
Prince Edward Island	69.4	69.5	69.5	70.0	66.0	—	—
Quebec[b]	84.7	83.6	89.3	89.1	82.8	—	—
Ontario	73.8	74.1	74.1	74.1	76.3	—	—
Saskatchewan	65.3	65.4	65.3	66.3	60.5	—	—
British Columbia	68.9	69.5	69.5	69.5	82.0	—	—
				cents per doz.			
EGGS (average paying prices at registered grading stations, Grade A Large)							
Halifax	36.3	43.2	52.8	49.2	51.8	55.3	54.2
St. Anselme	35.3	42.2	51.9	49.2	54.8	54.8	55.0
London	35.1	41.0	50.9	50.8	53.1	53.8	53.7
Winnipeg	30.6	37.5	47.2	45.4	42.2	45.1	44.4
Vancouver	36.4	39.5	46.0	46.0	45.0	41.1	40.2
				cents per lb. live			
BROILERS (average prices paid to growers No. 1 grade chicken under 5 lbs.)							
Toronto	18.8	19.5	19.5	19.5	20.5	20.5	20.5
Edmonton	20.5	21.0	21.0	21.0	21.9	21.5	20.5
TURKEYS (average prices paid to growers, No. 1 grade, 12-20 lbs.)							
London	25.4	25.9	27.0	28.8	25.0	25.5	26.5
Edmonton	24.3	24.1	25.9	26.5	25.4	25.5	26.0

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1965-66 (CONTINUED)

Commodity, grade and market	1965-66 Crop Year Average	1965 Sept.	1965 Oct.	1965 Nov.	1966 Sept.	1966 Oct.	1966 Nov.
			dollars per cwt.				
POTATOES (Can. No. 1 Table, average prices to growers)							
Prince Edward Island	2.85	1.50	2.17	2.23	1.40	1.39	1.25
New Brunswick	2.28	1.20	2.05	1.87	1.12	1.19	1.27
Southwestern Ontario	2.83	2.40	2.55	2.73	1.85	1.87	1.89
			cents & eights per bu.				
EASTERN GRAINS							
Oats (Ont. No. 2 White, f.o.b. shipping points)	78	78	78	78	78	78	78
Barley (Ont. good malting, f.o.b. shipping points)	145	145	145	145	145	145	145
Corn (Ont. No. 2 Yellow, f.o.b. Chatham, 15% moisture, in carlots)	144/6	154	146	141	157/2	146/2	146
Soybeans (Ont. No. 2, f.o.b. Chatham)	300/7	270/6	274/7	264/2	327	310/5	306/6
WESTERN GRAINS (basis in store Fort William/Port Arthur, less freight and elevator handling charges)							
Red Spring Wheat (No. 2 Nor.)							
Winnipeg	183/6	177/3	178/5	178/7	196/2	195/2	195/7
Regina and Edmonton	180/2	173/7	175/1	175/3	192/6	191/6	192/3
Durum Wheat (No. 1 C.W.A.D.)							
Winnipeg	187/6	180/3	181/5	181/7	210/4	211/2	214/7
Regina and Edmonton	184/2	176/7	178/1	178/3	207	207/6	211/3
Feed Wheat							
Winnipeg	160/4	155/2	155	154/7	175/5	177/2	177/7
Regina and Edmonton	157	151/6	151/4	151/3	172/1	173/6	174/3
Oats (No. 1 feed)							
Winnipeg	76/5	73/5	73/5	73/7	81/4	81/3	81/4
Regina	74/5	71/5	71/5	71/7	79/4	79/3	79/4
Edmonton	72/5	69/5	69/5	69/7	77/4	77/3	77/4
Barley (No. 1 feed)							
Winnipeg	117	116	116/4	116/5	121/7	121/6	122/6
Regina	114	113	113/5	113/5	119	118/7	120/7
Edmonton	111/2	110/2	110/6	110/7	116/1	116	117
Rye (No. 2 C.W.)							
Winnipeg	119/1	115/2	116/4	115/1	124/5	117/6	119/6
Regina	115/6	111/7	113/1	111/6	121/2	114/3	116/3
Edmonton	112/3	108/5	109/7	108/4	118	111/1	113/1
Flaxseed (No. 1 C.W.)							
Winnipeg	289/2	305/3	297/5	284/5	292/2	284	281/3
Regina	286	302/1	294/3	281/3	289	280/6	278/1
Edmonton	282/5	298/5	290/7	277/7	285/4	277/2	274/5
Rapeseed (No. 1 C.W., basis in store Vancouver)	266/1	229	244/5	271/7	276	265/6	268/3

[a]Since the average farm values for manufacturing milk and butterfat published by the Dominion Bureau of Statistics (D.B.S.) do not include the Federal subsidies as of April 1, 1966, it is necessary to add, during the 12-months period ending March 31, 1967, the Federal payment of 85 cents per hundred pounds of milk testing 3.5% butterfat to obtain the full returns to producers. Ten cents are retained for export aid. The net payment of 75 cents per cwt. is made directly to farmers, at the equivalent rate of 21.43 cents per pound of butterfat.

[b]In the province of Quebec, and beginning April 1, 1966, full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote [a]), plus a payment made by the Quebec government. This payment is made on butterfat at the rate of five cents per pound from April 1 to September 30 and at the rate of ten cents per pound from October 1 to March 31. Prior to April 1, 1966, this payment, which began in October, 1964, was made through factories and was part of the producer's farm value.

SELECTED INDEXES: FARM COSTS, FARM PRICES, WHOLESALE PRICES, CONSUMER PRICES, PRODUCTION

(All indexes shown are official, seasonally unadjusted indexes published by the Dominion Bureau of Statistics.)

	Index of Prices Paid by Farmers				Index of Prices Received by Farmers	Wholesale Price Indexes					Consumer Price Indexes		Production Indexes	
	Composite (excluding living costs)	Farm machinery	Taxes and interest rates	Farm wage rates		General	Canadian Farm Products All	Canadian Farm Products Field	Canadian Farm Products Animal	Non-farm products	All items	Food	Industrial	Farm
	1935-39=100										1949=100			
1946	157.0	118.8	117.2	314.6	204.1	138.9	179.5	177.9	181.2	135.2	77.5	70.0	83.8	106.3
1947	170.4	126.3	125.0	341.4	215.8	163.3	192.2	184.1	200.2	160.3	84.8	79.5	91.5	100.5
1948	197.6	141.6	131.3	371.2	255.8	193.4	232.1	200.6	263.7	184.9	97.0	97.5	96.4	105.4
1949	204.1	158.3	138.7	373.3	255.4	198.3	228.7	191.9	265.4	190.9	100.0	100.0	100.0	100.0
1950	210.4	165.1	144.3	368.7	260.8	211.2	236.7	191.9	281.4	204.2	102.9	102.6	107.3	110.0
1951	230.0	186.8	151.8	416.6	296.8	240.2	268.6	200.4	336.9	233.2	113.7	117.0	117.4	121.6
1952	243.1	195.4	161.4	445.5	274.4	226.0	250.2	223.0	277.5	226.0	116.5	116.8	122.4	140.8
1953	239.8	196.7	168.2	449.1	250.4	220.7	221.6	179.4	263.8	223.3	115.5	112.6	131.3	130.1
1954	237.2	197.9	174.6	441.2	236.8	217.0	213.6	170.9	256.3	219.6	116.2	112.2	131.1	103.2
1955	238.3	198.8	177.2	439.7	232.7	218.9	212.6	180.1	245.1	225.9	116.4	112.1	145.5	127.7
1956	247.6	209.4	184.7	470.3	234.6	225.6	214.2	181.6	246.9	235.7	118.1	113.4	160.7	140.3
1957	255.9	223.8	191.9	501.4	234.2	227.4	213.6	169.2	258.0	236.0	121.9	118.6	163.3	120.8
1958	259.9	236.1	196.7	513.2	245.5	227.8	222.9	171.4	274.5	233.0	125.1	122.1	162.4	129.9
1959	269.5	247.8	204.7	538.2	247.4	230.6	223.9	176.1	271.6	236.0	126.5	121.1	176.5	129.8
1960	276.7	253.5	214.5	555.3	250.0	230.9	226.6	189.1	264.1	237.0	128.0	122.2	179.8	138.7
1961	282.2	260.7	220.6	566.0	261.2	233.3	230.9	191.7	270.0	239.1	129.2	124.0	186.2	122.0
1962	290.7	268.1	228.0	576.1	272.0	240.0	240.8	195.5	286.0	244.8	130.7	126.2	201.7	150.9
1963	298.6	272.9	239.2	600.6	268.4	244.6	236.3	197.2	275.4	248.0	133.0	130.3	215.3	162.9
1964	308.6	279.6	247.4	627.5	265.8	245.4	232.7	198.2	267.3	252.2	135.4	132.4	235.3	151.5
1965	321.8	284.9	259.1	677.0	272.2	250.4	242.9	196.4	289.3	257.2	138.7	135.9	254.9	166.3
1965														
August	329.2	284.9	259.1	721.2	265.0	251.4	238.0	177.9	298.2	258.0	139.4	137.8	247.5	—
September	—	—	—	—	261.6	251.1	231.9	167.1	296.8	258.1	139.1	136.4	263.7	—
October	—	—	—	—	264.6	252.1	237.2	172.8	301.7	258.0	139.3	135.7	268.7	—
November	—	—	—	—	266.4	253.7	241.9	174.4	309.3	258.6	140.2	138.2	274.0	—
December	—	—	—	—	274.7	255.4	246.7	173.2	320.3	259.0	140.8	139.6	263.9	—
1966														
January	328.5	291.5	259.1	705.4	277.6	257.4	248.5	174.2	322.8	260.7	141.2	140.6	262.0	—
February	—	—	—	—	283.9	259.6	255.0	178.6	331.4	260.9	142.1	142.5	274.0	—
March	—	—	—	—	279.5	258.1	250.4	181.6	319.2	261.2	142.4	143.4	274.0	—
April	346.8	293.8	259.1	798.5	276.7	257.8	250.8	185.0	316.5	261.2	143.2	143.7	274.3	—
May	—	—	—	—	279.0	258.8	252.5	185.5	319.4	261.9	143.4	143.8	276.1	—
June	—	—	—	—	278.4	259.6	251.9	179.1	324.6	262.8	143.8	144.2	282.2	—
July	—	—	—	—	271.5	259.9	244.7	176.2	313.2	263.8	144.3	146.0	255.0	—
August	346.2	293.7	259.1	788.6	271.6	260.4	244.4	170.9	317.9	263.6	144.9	148.1	262.9	—
September	—	—	—	—	273.4	260.8	245.4	169.6	321.2	264.0	145.1	147.1	—	—
October	—	—	—	—	—	260.7	—	—	—	—	145.3	145.6	—	—

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CANADIAN FARM ECONOMICS

COMMODITY REVIEW

GRAINS AND FEEDS

The 1965-66 Wheat Pool was closed by the Canadian Wheat Board on January 13, 1967. Western producers had delivered a total of 560 million bushels of wheat to the Pool. This included 19 million bushels of Durum. The final payment for No. 1 Northern was a record 49.7 cents a bushel and the final realized price, basis Fort William—Port Arthur was accordingly 199.7 cents a bushel. This compares with a final realized price in the 1964-65 pool of 188.3 cents a bushel and the previous record of 196.9 cents a bushel paid for No. 1 Northern in 1963-64. Prices for the lower grades were also up sharply over the previous crop year. This was of considerable benefit to the producers because quite a large proportion of the 1965-66 deliveries was in the lower grades.

The final payment for No. 1 C.W. Amber Durum was 53.7 cents a bushel making the final realized price to producers 203.7 cents a bushel.

The Canadian Wheat Board closed off the 1965-66 oats and barley pools later in the month. Producers had delivered 49.6 million bushels of oats to the Oats Pool and 88.9 million bushels of barley to the Barley Pool. The final realized price for No. 2 C.W. Oats, basis in store the Lakehead, was 84.5 cents a bushel. The final price for No. 3 C.W. 6 Row Barley, in store the Lakehead, was 128.6 cents a bushel. The combined total of the final payments on wheat, oats and barley was $311.6 million and this is the largest final payment on grains in the history of the Canadian Wheat Board.

Meanwhile the Board continued to increase the delivery quotas in order to encourage regular delivery of the various grains. While the official statistics indicate a rather sharp increase in farmers' deliveries during early January, this would be more apparent than real and no doubt represents the conversion of storage tickets into cash tickets following the end of the year. Farmers' marketings of wheat to the 1966-67 pool had reached over 330 million bushels by February 22. This is a substantial increase over the 261 million bushels marketed during the same period, in 1965-66. As the terminal elevators at the Lakehead filled up following the close of navigation, both railways placed an embargo on shipments of grain to Fort William—Port Arthur. These elevators have a total working capacity of between 85 and 90 million bushels and by February 22 the total amount of grain in store at these terminals was in excess of 86 million bushels. This amount included 62.6 million bushels of wheat.

Exports of Canadian wheat remain buoyant and are expected to reach between 500 and 550 million bushels for the current crop year. As of March 1, 1967 overseas clearances of wheat amounted to 294 million bushels. This is only about 15 million bushels below exports for the same period in 1965-66 which was a record export year for wheat from Canada.

Recent developments in the communist countries have had little or no effect on deliveries made under the various agreements with these countries. The current unrest reported in China has not delayed Canadian wheat shipments to that country. In mid-December the Wheat Board announced that under the provision of the third long-term agreement with China, a further sales contract had been signed to cover 35 million bushels of wheat to be shipped by way of the Pacific coast ports during January through July 1967. To date deliveries have been going ahead as scheduled and payments have been made on time. Shipments out of Pacific coast ports as of March 1, reached 101 million bushels. Exports of wheat to Asian countries generally remain well above those of last year.

On the other hand overseas clearances from Atlantic ports are somewhat reduced this year. Between August 1, 1966 and March 1, 1967 the volume loaded to ocean vessels at the Maritime ports totaled 24 million bushels, down from the 27 million bushels shipped during the corresponding period in 1965-66.

The generally firm demand for wheat has helped to keep prices stable at a high level. At the end of February the Canadian Wheat Board Price for No. 1 Northern in store Lakehead was about 212½ cents a bushel.

The demand for oats has been smaller and prices have been on the decline in recent months. Domestic use is slightly less than a year ago and export demand has been practically non-existent.

In contrast the commercial disappearance of barley during the crop year to date has increased substantially over year-ago figures. As of March 1, barley

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disappearance had reached 49 million bushels compared with 41 million for the corresponding period in the previous crop year. Most of this increase came from the domestic sector. Export demand for barley has been rather disappointing but is expected to improve later in the spring. Visible supplies of barley at March 1 stood at 80 million bushels up 11 million bushels over the previous year's volume.

The increase in domestic disappearance can be attributed to an increased use of barley for feed. The number of hogs on Canadian farms at December 1, 1966 was up 14 per cent from the previous year. Futhermore, reported intentions to farrow for the spring of 1967 are up 16 per cent from last year. This should indicate a better domestic feed demand for barley during the balance of the crop year.

The flagging export demand for Canadian barley is probably due to the larger crops harvested in the United Kingdom and other parts of Europe this year. In fact, the United Kingdom, which used to be a large importer of Canadian barley, has now increased production to the extent that she has exported good quantities to the Continent. Offerings from Australia and some European countries also continue to provide stiff competition in world markets for Canadian barley and export demand, even at reduced prices, remains relatively quiet.

World production of rye in 1966 was 9 per cent lower than in 1965. In mid-February the Winnipeg Grain Exchange Cash Price for rye was firm and quoted at about $1.36 per bushel basis 2 C.W. in store Lakehead. Demand has remained brisk and so far this crop year Canada has nearly doubled its overseas clearances of rye over the same period in 1965-66 (6.3 million bushels compared to 3.6 million).

Generally, world trade in cereals for the current crop year is expected to be somewhat below the level reached in 1965-66. Canadian grain exports, with the possible exception of rye, tend to reflect this situation. However, in the long run the outlook for grain exports remains quite bright, particularly as far as wheat is concerned. Increasing foreign aid shipments and export sales of wheat to the developing nations in Asia and Africa will probably form a larger part of any increased export demand.

As far as Canadian production of grains is concerned, any increase will come mainly as a result of more intensive farming practices. New varieties, increased use of fertilizer, reduced summer fallow acreage and increased irrigation all offer possibilities for continued high level wheat production in the future.

R. T. Miller

TRENDS IN THE HOG INDUSTRY

Production—Historically, hog production in Canada has been somewhat variable. Hog production is influenced not only by hog prices but also by the prices of feed grains and fed cattle. Between 1946 and 1951, hog gradings averaged 4.6 million head annually. Since then, hog gradings have shown a general increase (Figure 1). Total hog gradings in Canada for the period 1951–55, averaged 81 per cent of total commercial hog slaughter and by 1961–65 averaged 87 per cent.

Between 1951–55 and 1956–60, average gradings increased by 1.1 million head, with the increase taking place in both Eastern and Western Canada. From 1956–60 to 1961–65, gradings in Canada as a whole remained almost stationary with a decline in Western Canada being offset by an increase in the East. In 1966, hog gradings in Canada were moderately higher than the 1961-65 average with the East recording an increase and the West a decline.

During the past 10 years, hog gradings in Eastern Canada increased in all provinces except New Brunswick. Throughout the same period, hog gradings in Western Canada declined except in Manitoba where an upward movement took place.

Changes have occurred in the source of Canada's hog gradings during the past 15 years. In the five-year period 1951-55, 59 per cent of Canada's hog gradings originated in Eastern Canada and 41 per cent in Western Canada; in 1956-60, the East declined to 56 per cent and the West rose to 44 per cent. For the period 1961-65, this pattern reversed and 61 per cent of Canada's hog gradings originated in the East and 39 per cent in the West. On a provincial basis in 1966, Ontario led with 37.7 per cent, followed by Quebec (23.2), Alberta (19.7), Manitoba (8.6), Saskatchewan (6.8), British Columbia (0.5) and the Maritimes (3.3).

Quality—Significant changes have been occurring in the proportions of the various grades of hogs marketed throughout Canada. In 1966, 42 per cent of the hogs graded were in the "A" classification, an increase of 12.5 per cent over the five-year average for 1951-55 (Table 1). The percentage of Grade A hog carcasses in both Eastern and Western Canada has been rising and is now about equal in both regions, whereas in the period 1951-55, the East had 10 per cent more of its hogs grading "A" than did the West. Western Canada had an increase of 17.6 per cent between 1951-55 and 1966, with the Province of Alberta recording the greatest increase, followed by Saskatchewan, British Columbia, and Manitoba.

In Eastern Canada where the percentage of Grade A hog carcasses has been traditionally higher than in the West, the increase from 1951-55 amounted to 9.1 per cent. The greatest increase occurred in New

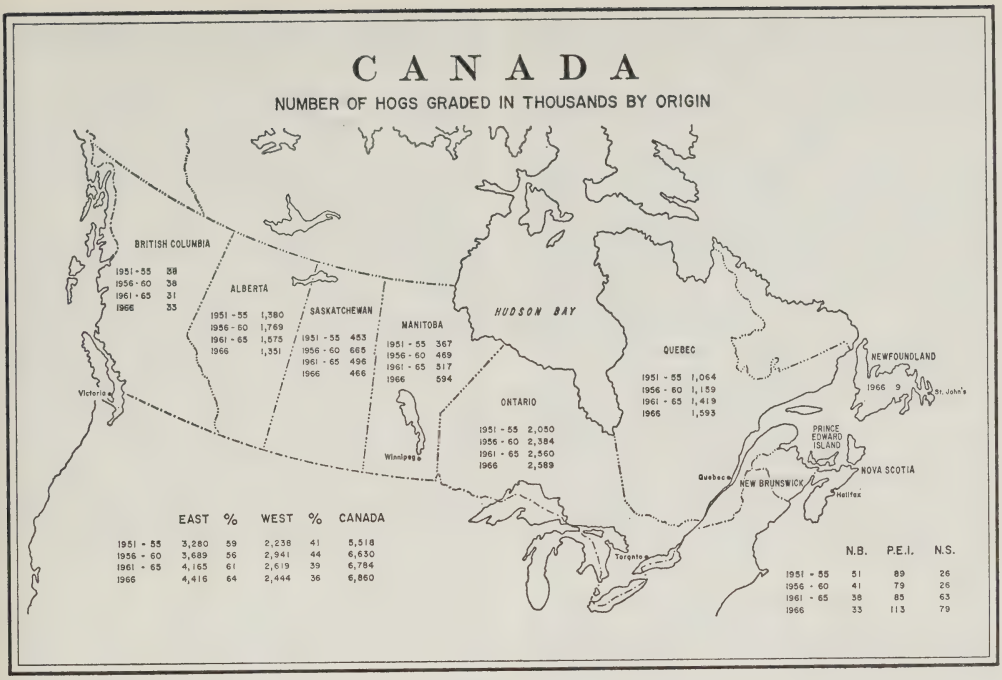


FIGURE 1

Brunswick, followed by Nova Scotia, Ontario, Quebec, and Prince Edward Island where the percentage of A gradings has been historically high. On a provincial basis in 1966, Newfoundland led with 59.3 per cent, followed by Nova Scotia (57.4), New Brunswick (56.2), Prince Edward Island (55.7), Ontario (43.3), British Columbia (43.0), and Alberta and Saskatchewan 42.8 and 42.3 per cent respectively.

TABLE 1.—HOG MARKETINGS,[a] PERCENTAGE GRADE A, CANADA AND PROVINCES, 1951-55, 1956-60, AND 1961 TO 1966

	1951-55	1956-60	1961	1962	1963	1964	1965	1966	Change 1951-55 to 1966
	per cent								
Newfoundland	—	—	—	—	—	—	61.9	59.3	—
Prince Edward Island	53.9	56.1	55.6	56.9	57.8	59.8	57.2	55.7	+ 1.8
Nova Scotia	45.5	51.9	53.6	51.9	52.9	57.0	56.9	57.4	+11.9
New Brunswick	39.8	48.8	50.7	52.1	52.1	53.7	57.3	56.2	+16.4
Quebec	30.5	30.6	33.0	34.2	36.2	35.8	38.1	39.4	+ 8.9
Ontario	33.9	35.3	37.7	37.8	39.0	41.0	42.6	43.3	+ 9.4
East	33.5	34.6	56.9	37.8	39.1	39.9	41.8	42.6	+ 9.1
Manitoba	26.0	29.1	31.7	32.9	34.5	37.7	38.0	35.5	+ 9.5
Saskatchewan	26.4	30.7	34.0	35.9	38.8	39.6	41.5	42.3	+15.9
Alberta	21.6	22.7	29.0	35.0	36.8	36.3	40.3	42.8	+21.2
British Columbia	29.4	28.6	33.8	39.8	41.8	42.5	43.7	43.0	+13.6
West	23.4	25.6	30.6	34.9	36.8	37.3	40.1	41.0	+17.6
Canada	29.5	30.6	34.2	36.3	38.0	39.0	41.1	42.0	+12.5

[a]Total marketings excludes sows and stags.
Source: Livestock Market Review.

The Canada Department of Agriculture pays a premium on high quality hogs officially graded in inspected or approved slaughter houses. The quality premium program is authorized by an Order-In-Council and is subject to annual review and approval by Parliament. Prior to October, 1959, $2.00 per head was paid to producers on Grade A hog carcasses and $1.00 per head on Grade B-1 carcasses. Following the revision of grade standards in October, 1959 the rates became $2.00 for Grade A hog carcasses and $1.00 for Grade B. Further incentive to producers in the production of Grade A hogs was given in October, 1960 when the premium for that grade was increased to $3.00 per head, while premiums for Grade B carcasses were withdrawn. In September, 1962 the Grade A premium reverted to $2.00 per head, but was raised again to $3.00 effective April, 1963 and this premium is still in effect. In 1965, the cost to the federal government of this premium to producers of Grade A hog carcasses amounted to about $8.4 million, approximately two per cent of the total of nearly $380 million of cash receipts received from the hog enterprise.

Receipts—In Table 2, the percentages of total cash receipts from the sale of livestock and livestock products, contributed by hogs, are given in terms of five-year averages for the period 1951-55 and 1956-60 and on an annual basis for the years 1961-65. Farm cash income received by farmers from the sale of hogs varies with changes in total output and prices.

In Canada, the contribution from the hog enterprise to total farm cash receipts from livestock and livestock products declined from 1951-55 to 1956-60. The decline occurred in both Western and Eastern Canada. For the years 1961 to 1965, this percentage remained relatively stable for Canada, varying from 16.8 per cent in 1963 to 18.0 per cent in 1965.

During the periods 1951-55 and 1956-60, the hog enterprise in the West contributed slightly more to total receipts from livestock and livestock products than in the East. Since then the hog enterprise in the East has contributed somewhat more.

Hog production is one of the nine products named in the Agricultural Stabilization Act of 1958 to receive mandatory price support. Hog producers are guaranteed a minimum return of 80 per cent of a base price which is the average of prices for the preceding ten-year period. Under this Act, support prices for hogs may be made effective through the government's purchase of pork, by deficiency payments or through such other payments as the Governor-in-Council may order. The last purchases of pork under this program were concluded in 1960. Since 1960, no payments on hogs have been made because prices to producers have remained above the floor level. An annual quota per producer of up to 100 Grade A or B hogs is eligible.

Prices—Since pork products move in both directions across the Canada-United States border, hog prices in Canada are directly related to price levels in the United States. Pork carcasses are exported to the United States largely in the form of wholesale cuts (hams, back, bellies, butts and picnics, etc.). There is little movement of live slaughter hogs from Canada to the United States. This is largely due to a difference in quality with a higher market price in Canada than the United States. Also, the Canada Department of Agriculture pays a premium of $3.00 on each Grade

TABLE 2.—CASH RECEIPTS FROM HOGS AS A PERCENTAGE OF TOTAL CASH RECEIPTS FROM THE SALE OF LIVESTOCK AND LIVESTOCK PRODUCTS, CANADA AND PROVINCES, 1951-55, 1956-60, AND 1961 TO 1965

	1951-55	1956-60	1961	1962	1963	1964	1965	Change 1951-55 to 1965	Change 1956-60 to 1965
	per cent								
Prince Edward Island	29.6	22.9	24.7	22.0	23.8	25.0	29.1	− 0.5	+6.2
Nova Scotia	9.4	6.9	9.6	10.6	9.9	8.8	12.5	+ 3.1	+5.6
New Brunswick	14.5	11.8	13.4	12.6	10.9	10.7	10.9	− 3.6	−0.9
Quebec	21.7	18.8	18.2	20.2	19.2	18.8	19.1	− 2.6	+0.3
Ontario	21.9	19.0	18.0	18.2	17.8	17.8	19.0	− 2.9	—
East	21.3	18.4	17.7	18.6	17.9	17.8	18.8	− 2.5	+0.4
Manitoba	18.6	16.9	17.8	17.8	15.6	18.3	18.2	− 0.4	+1.3
Saskatchewan	18.2	17.1	14.7	13.4	11.3	13.4	13.0	− 5.2	−4.1
Alberta	33.2	26.5	23.0	22.8	21.0	22.0	23.0	−10.2	−3.5
British Columbia	4.3	3.1	2.8	2.5	2.3	2.4	2.3	− 2.0	−0.8
West	22.5	19.2	17.3	16.8	14.9	16.4	16.8	− 5.7	−2.4
Canada	21.7	18.7	17.6	17.9	16.8	17.3	18.0	− 3.7	−0.7

Source: Handbook of Agricultural Statistics; D.B.S., Part II—Cash Income From Sale of Farm Products.

"A" carcass. On the other hand, live slaughter hogs cannot be imported into Canada due to the existence of hog cholera in the United States.

Price movements in Canada and the United States have followed the same pattern during the past two years. During 1965, hog gradings in Canada dropped 2.8 per cent from 1964 and prices at Toronto for Grade A hog carcasses rose from $27.30 in 1964 to $33.40 in 1965, an increase of $6.10 per hundredweight. During the same period, inspected slaughter in the United States dropped 11.2 per cent and prices for live barrows and gilts (Nos. 1, 2 and 3, 200-220 lbs.) increased from $16.16 in 1964 to $22.29 in 1965, an increase of $6.13 per hundredweight in United States dollars.

In 1966, hog gradings in Canada were 3.1 per cent below 1965 and Grade A prices at Toronto averaged $35.90, an increase of $2.50 per hundredweight over 1965. In the United States, inspected slaughter in 1966 remained nearly the same as the previous year and hog prices at Chicago rose from $22.29 in 1965 to $24.81 in 1966, an increase of $2.52 per hundredweight.

For the first two months of 1967, hog gradings in Canada were 24.7 per cent above the same months in 1966. Grade A hog prices at Toronto for the week ended February 25, 1967 averaged $33.28, compared with $41.43 for the corresponding week in 1966, a decline of $8.15 per hundredweight.

In the United States, inspected slaughter for January 1967 was estimated to be 33 per cent above the same month a year earlier. Weekly slaughter rates through mid-February continued to show an increase of about 25 per cent over year earlier levels. For the week ended February 18, 1967, live barrows and gilts (Nos. 1, 2 and 3) averaged $20.12 compared to $28.42 for the corresponding week one year before, a decline of $8.30 per hundredweight in U.S. funds. In both Canada and the United States, hog slaughter for 1967 is forecasted to be larger than in 1966 and lower prices are in prospect. Hog prices in Canada in 1967 will continue to reflect the situation in the United States.

A. M. Boswell and D. W. Sword

PRODUCER RETURNS FROM THE SALE OF MANUFACTURING MILK

The total income which producers earn from the sale of manufacturing milk and cream is made up of payments received from the dairy factories plus any Government payment.

From May 1, 1959 until April 30, 1964, the Agricultural Stabilization Board made payments of 25 cents per 100 pounds of milk. These payments were channeled through manufacturing plants which acted as agents for the Board. Factories paid the producer for milk delivered and at that time, the producer price included the federal payment of 25 cents per 100 pounds. The same was true for the federal price support payments on creamery butter which began on May 1, 1962 and continued until March 31, 1966.

Since these federal payments during the period 1959 to 1966 were an integral part of the producer price, the official statistics published by the Canada Department of Agriculture (Dairy Produce Market Report) and the Dominion Bureau of Statistics (Dairy Review (monthly), Dairy Statistics (annual)), included these payments.

The Dairy Produce Market Report lists factory prices, basis 3.5 per cent butterfat. The two D.B.S. publications give information on a "farm gate" basis, referring to it as "Farm Cash Receipts" and "Average Farm Value" for manufacturing milk.

Over the period of seven years, 1958-1964, expenditures under the federal price support program added about 20 per cent to the average producer's cash receipts from the sale of milk and cream for manufacturing purposes (*1*).

Supplementary Payments in 1965—In April, 1965 the dairy support policy was revised and some of the support payments were no longer made through plants. The federal Government authorized "Supplementary Payments" (*2*) on manufacturing milk which were graduated according to size of milk deliveries by farmers. Farmers delivering less than 10,000 pounds of milk during the year were not eligible to receive this payment. Producers with shipments up to 48,000 pounds received 25 cents per hundredweight; for the next 48,000 pounds they received 20 cents per hundredweight; and milk deliveries in excess of 96,000 pounds per year received 10 cents per hundredweight. The subsidy was based on milk deliveries during the preceding year, and on average, the payment amounted to 20 cents per hundredweight.

This supplementary payment was mailed directly from Ottawa to each individual producer and it was not, therefore, included in the producer price at the factory. For this reason, these direct payments have not been reflected in published producer prices for manufacturing milk and cream in the support year 1965-66.

Direct Payments, Main Support Instrument in 1966-67—From April, 1966 "direct payments" have become the main instrument under the Agricultural Stabilization Program. The support level of $4 net per hundred pounds for manufacturing milk was implemented by measures which permitted manufacturing plants to pay producers a price of $3.25 per hundred pounds of milk, testing 3.5 per cent butterfat, and by direct payments of 85 cents per hundred pounds of milk, of which 10 cents were being withheld to finance export

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aid, thus making the direct payment 75 cents net. The subsidy of 75 cents was being paid to producers at the equivalent rate of 21.43 cents per pound of butterfat (*3*).

Total Returns—Average farm values for milk and butterfat, as published by the Dominion Bureau of Statistics, are the basis for estimates of farm cash receipts. Conceptually, average farm values do not include direct payments from the Government. In farm income statistics, supplementary payments made to any sector of Agriculture are added to "cash receipts" and "income in kind" to obtain "realized gross income". As a rule, therefore, statistics of farm cash receipts from milk do not include direct payments made by the Canada Department of Agriculture. It should further be noted that, for the same reason, direct payments to dairy producers are not included in the data used to compile the "Index of Prices Received by Farmers". This index would be higher if direct payments were incorporated.

In order to provide more complete information, estimates have been made of total producer returns per 100 pounds of manufacturing milk, basis delivered at the factory, 3.5 per cent butterfat. The estimates are averages for Canada for manufacturing milk used in cheese, concentrated products and ice cream during the period April to November, 1965 and 1966.

The monthly figures for 1966 show that total returns per hundredweight of milk have ranged from $3.91 per hundredweight to $4.18 per hundredweight during this period. The federal support level of $4 per 100 pounds of manufacturing milk is an annual average return, and monthly figures will be above or below this average. (Table 1)

The difference between "average farm values" (D.B.S.) and the estimated total returns "at the factory" shown in Table 1 are explained by three factors.

In 1966, the most important factor is the addition of the federal net payment of 75 cents per 100 pounds of milk. The second factor is the variation in the butterfat content of milk, which changes from month to month. In order to convert the D.B.S. "farm values" which are implicitly based on the natural butterfat content of the raw milk, to a standard 3.5 per cent butterfat basis, a schedule of actual monthly butterfat tests was used. This schedule is based on results of a survey of manufacturing establishments in 1965-66 (which was part of the deficiency payment program at that time).

The third factor is transportation. A charge of 25 cents per 100 pounds of milk was used in both years for the purpose of these estimates.

The monthly data in Table 1 reflect Canada averages; the monthly returns in any particular province might differ from these national averages because producer prices paid by factories are not the same.

In order to make the same calculation for each province, it would be necessary to undertake an analysis of provincial schedules of butterfat content

TABLE 1.—TOTAL PRODUCER RETURNS FOR MANUFACTURING MILK USED IN CHEESE, CONCENTRATED PRODUCTS AND ICE CREAM, APRIL TO NOVEMBER, CANADA, 1965 AND 1966

		April	May	June	July	Aug.	Sept.	Oct.	Nov.
		dollars per hundredweight							
1. Weighted average farm value	1965	2.98	2.90	2.90	2.90	2.94	3.02	3.19	3.24
	1966	3.06	3.07	2.99	2.94	3.01	3.08	3.19	3.26
2. Estimated haulage	1965	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
	1966	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
3. Estimated price at factory (1+2)	1965	3.23	3.15	3.15	3.15	3.19	3.27	3.39	3.49
	1966	3.31	3.32	3.24	3.19	3.26	3.33	3.44	3.51
4. Estimated price at factory, basis 3.5% butterfat (3÷7)×3.5%	1965	3.19	3.25	3.25	3.25	3.25	3.22	3.16	3.14
	1966	3.27	3.43	3.34	3.29	3.32	3.28	3.20	3.16
5. Federal subsidy	1965	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
	1966	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
6. Total producer returns at factory, basis 3.5% butterfat	1965	3.39	3.45	3.45	3.45	3.45	3.42	3.36	3.34
	1966	4.02	4.18	4.09	4.04	4.07	4.03	3.96	3.91
		per cent							
7. Estimated average butterfat test	1965	3.546	3.389	3.394	3.392	3.435	3.552	3.756	3.888
	1966	3.546	3.389	3.394	3.392	3.435	3.552	3.756	3.888

Sources: (1) D.B.S. Dairy Review (monthly).
(2) Survey of Manufacturing Plants in 1965-66, undertaken by Canada Department of Agriculture as part of the Deficiency Payment Program for Manufacturing Milk.

of milk, haulage rates, farm values and to consider, in addition to the federal payment, the provincial payments which were made in Ontario and Quebec (*4*).

Notes and References

(*1*) Farm Cash Income in the Dairy Sector, *Canadian Farm Economics*, Vol. 1, No. 1, April, 1966, pp. 11-15.
(*2*) Appropriation Act of 1965; No. 6, July 21, 1965.
(*3*) For details of the 1966-67 Support Program, see *Canadian Farm Economics*, February, 1967, p. 39.
(*4*) (See footnote to statistical appendix in this issue for details).

H. J. Mestern

EGGS AND POULTRY

Egg Situation and Outlook

Egg marketings across Canada in 1967 will likely be up by 6 to 8 per cent from the volume in 1966. As a result, egg price levels in 1967 will probably average 20 to 25 per cent under the high levels of the previous year. The moderate upturn in egg production reflects the 10 per cent expansion that occurred in the rearing of replacement laying stock in Canada in 1966.

In 1966, the price to producers for all grades of eggs averaged 39.4 cents per dozen, 8 cents higher than in 1965. Egg markets were at the highest price level since 1953. However, the high price provided both incentive and a larger cash flow for producers to expand productive capacity. Egg prices declined sharply in January and February of 1967 because of the strong seasonal and cyclical upturn in egg production at that time.

In January, 1967 egg marketings at registered stations in Canada were 7 per cent larger than a year earlier, and 5 per cent up from the level of marketings in December 1966. Egg production will likely be down until early April, due to generally cold weather and a depressed rate of lay, but is expected to rise to a sharp peak during May and June.

TABLE 1.—PLACEMENT OF EGG TYPE PULLET CHICKS IN CANADA, BY PROVINCE, 1965 AND 1966

	1965	1966	Percentage Change
	thousands		
British Columbia	2,473	2,896	+17.1
Alberta	2,460	2,583	+ 5.0
Saskatchewan	2,253	2,176	− 3.4
Manitoba	2,717	2,949	+ 8.5
Ontario	7,312	8,422	+15.2
Quebec	3,668	4,307	+17.4
Atlantic Provinces	1,886	1,731	− 8.2
Canada	22,768	25,065	+10.1

TABLE 2.—MONTHLY WEIGHTED AVERAGE EGG PRICES TO PRODUCERS FOR ALL GRADES, IN CANADA, 1965, 1966 AND 1967

	1965	1966	1967
	cents per dozen		
January	21.7	32.0	35.3
February	22.1	34.0	29.3[a]
March	25.4	37.6	
April	27.5	41.4	
May	27.3	36.5	
June	26.2	32.1	
July	27.4	34.8	
August	33.4	44.2	
September	36.7	45.0	
October	45.7	45.4	
November	44.9	46.1	
December	44.4	44.9	
Year	31.4	39.4	

[a]Preliminary.

TABLE 3.—MONTHLY EGG GRADINGS AT REGISTERED STATIONS IN CANADA, 1965, 1966 AND 1967

	1965	1966	1967
	thousand cases		
January	698	646	690[a]
February	600	573	
March	687	642	
April	647	634	
May	712	671	
June	675	640	
July	666	617	
August	626	636	
September	591	605	
October	581	613	
November	619	602	
December	668	660	
Year	7,771	7,537	

[a]Preliminary.

TABLE 4.—PER CENT OF EGG TYPE CHICK PLACEMENTS IN CANADA, BY QUARTERS, 1962 TO 1966

	1962	1963	1964	1965	1966
	per cent				
CANADA					
January–March	29.7	25.1	30.0	23.7	24.7
April–June	52.1	49.8	47.7	47.4	41.1
July–September	8.3	11.6	10.8	14.0	16.7
October–December	9.9	13.5	11.5	14.9	17.5
WESTERN CANADA					
January–March	28.0	25.0	28.9	23.2	24.5
April–June	57.0	56.9	54.4	55.6	49.1
July–September	6.6	7.8	7.9	9.1	13.2
October–December	8.4	10.3	8.8	12.1	13.2
EASTERN CANADA					
January–March	31.1	25.2	30.8	24.0	24.8
April–June	48.2	44.0	42.5	41.1	35.2
July–September	9.6	14.7	13.0	17.8	19.3
October–December	11.1	16.1	13.7	17.1	20.7

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Egg prices are expected to strengthen slightly from mid-February to early April, when they will again come under heavy downward pressures, due to the continuing net additions of pullets to laying flocks, and the stimulus of favorable weather at that time. How much price recovery will take place in the second half of 1967 depends largely upon the level of chick placements during the spring period of the year. In the past, hatcheries and egg producers have over-expanded flock numbers following a good price year, such as 1966. Subsequently, they have incurred over-production and depressed markets during the following months. This phenomenon of the egg market, usually referred to as the egg production and price cycle, has shown little abatement in recent years. Price fluctuations during the most recent cycle from 1963 to 1966 were as extreme as at any time in the post-war period. However, there is a basis for anticipating smaller spring chick placements in 1967 than have occurred under similar market conditions during recent years. Since 1962, there has been a gradual shift of hatchery operations from a high level of spring activity toward a more regular monthly output. These trends are shown in Table 4.

Egg Industry Trends—The shift toward a more even monthly distribution of hatches and placements has been due to the increased specialization in all segments of the egg industry. Commercial egg producers have increased in numbers and size, while farm flock producers have been declining rapidly in numbers. Replacements for farm flocks were started during the spring, which resulted in a sharp peak in hatchery activity at that time, while commercial producers usually buy or start two or more hatches each year.

Associated with the trend toward greater specialization in egg production, has been the development of the started pullet segment of the industry, which is largely an outgrowth of the demand for ready-to-lay pullets on a continuous basis by commercial egg producers. Many hatcheries have undertaken this function, either in their own facilities, or on a contract basis with specialized pullet growers.

In addition to the year-round demand for started pullets, there are internal pressures within the breeder-hatchery-supply flock organizations to lower unit operating costs by spreading overhead expenses over a longer hatching season. Many egg type hatcheries in Canada have not been able to adjust to these changing requirements and have been closed, with the result that the remaining hatcheries have enlarged their volumes of business. Between 1962 and the end of 1966, the number of registered hatcheries in Canada declined from 400 to 299. More egg type hatcheries will likely close before these developments are complete.

Another factor that has led to increased specialization of supply flock operations has been the trend in breeding towards hybridization. This involves the mating of distinct female and male lines in multiplier flocks for the production of commercial hatchery stocks. These operations also involve greater fixed cost in breeding stock and organizational set-ups, and thus a longer hatching season reduces their unit costs quite rapidly. An added advantage with year-round hatchery operations is that the supply flock service programs of primary breeders and/or hatcheries also become more efficient in that service personnel can be retained and specialized in that work.

Poultry Meat Situation and Outlook

Poultry meat production in Canada in 1967 has shown little sign of slackening from the rapid rate of industry expansion that occurred in 1966. Up to February 11, poultry meat output in registered processing plants in Canada totaled 67.7 million pounds, up by 15 per cent from output in the same period of 1966. Larger placements of both broiler chicks and poults indicates that poultry marketings in the period from mid-February until April will also be up by 15 per cent from output in the same period in 1966.

Broiler chickens—Broiler chickens encountered more competition this winter from larger total meat supplies than were available in the same period a year ago. As a result, broiler markets across Canada were adjusted downward in order to keep the increased output moving through trade channels. Broiler prices began to recover in February, after having declined from late November to a low point in January, but were still below year-earlier levels in February. In the previous 17-month period, from July 1965 to November 1966, broiler producers in Canada experienced a sustained strong demand for their product. Part of this was due to the general shortage of pork and pork products during that period.

In spite of the winter price reductions, storage stocks of young chickens at February 1, at 20 million pounds, were more than double the total amount in cold storage at the same date in 1966. However, the bulk of the rise in cold storage stocks occurred in Quebec and Ontario, partly in anticipation of a heavy demand as a result of the Montreal World's Fair.

Chicken and fowl marketed through registered poultry plants in 1966, totaled 149 million birds, up by 15 million head or by 11 per cent from marketings in 1965. This was equivalent to about 461 million pounds, eviscerated weight basis, about 48 million pounds more than registered production in 1965.

Expansion of the broiler chicken industry throughout Canada accounted for most of the increased output of chicken. Broiler chicken marketings through registered premises rose to about 128 million birds

from 114 million marketed the previous year. Although Quebec and Ontario recorded slightly more than half of the absolute growth in broiler chicken production that occurred in Canada last year, the rate of industry expansion throughout Western Canada and in New Brunswick, was well above the national average of 13 per cent.

Marketings will continue to exceed year ago levels according to the increased rate of broiler chick placements during January to March. During this period, chick placements were up by 14 per cent from the year earlier level. Except for Alberta, producers in all broiler-producing provinces stepped up winter placements by 10 per cent or more from the same period last year. In Quebec, placements were extremely heavy, up by 30 per cent, in expectation of a strong demand in that area.

TABLE 5.—BROILER CHICK PLACEMENTS IN CANADA, BY WEEKS FOR THE PERIOD JANUARY 1–MARCH 18, 1966 AND 1967

		1966	1967	Percentage Change
			thousands	
January	7	2,636	3,239	+22.9
	14	2,616	3,246	+24.1
	21	2,470	2,993	+21.2
	28	2,670	3,171	+18.8
February	4	2,682	2,914	+ 8.6
	11	2,934	2,950	+ 0.5
	18	2,817	2,999	+ 6.5
	25	2,870	3,350[a]	+16.7
March	4	2,897	3,150[a]	+ 8.7
	11	2,911	3,300[a]	+13.4
	18	2,935	3,400[a]	+15.8

[a]Estimated from egg settings.

Roasting chicken—Roasting chicken production in Canada in 1966 did not keep pace with the fast growth in broiler output. Production in registered plants in 1966 at 52 million pounds was up about 8 per cent from output in the previous year. Although Quebec is predominant in roasting chicken production, producers in other provinces accounted for all of the increase that occurred. The slower growth in roaster production was mostly due to the competition from broiler chicken and turkeys, which usually undersell roasting chicken by several cents per pound in retail markets.

Turkeys—The sharp growth that occurred in Canada's turkey industry in 1966 is continuing in 1967. Turkey marketings at registered stations in 1966 totaled 15.4 million birds, equivalent to 187.1 million pounds, eviscerated basis. The percentage rise from 1965 in total birds marketed and total turkey meat tonnage, amounted to 19 per cent and 15 per cent respectively.

TABLE 6.—BROILER CHICKEN, ROASTER CHICKEN AND BROILER TURKEY OUTPUT IN REGISTERED STATIONS IN CANADA, 1963 TO 1966

	Broilers (Under 4 lbs.)		Roasters (4 lbs. and up)		Broiler Turkeys (Under 10 lbs.)	
Year	Head	Pounds	Head	Pounds	Head	Pounds
	millions					
1963.....	96.3	277.0	8.1	40.9	3.9	30.5
1964.....	105.8	305.6	8.3	42.4	5.3	41.6
1965.....	113.9	328.3	9.2	47.7	6.2	49.2
1966.....	127.6	370.9	9.9	51.7	8.2	65.4

Expansion was extremely rapid in the broiler turkey segment of the industry. While marketings of heavy turkey increased moderately to 7.3 million birds in 1966, up by 8 per cent from 1965, marketings of broiler turkeys rose by 2.0 million birds, from 6.2 million in 1965 to 8.2 million birds in 1966.

Broiler turkey producers in Ontario stepped up the recorded output of broilers to 4.4 million birds, up by 1.1 million from 1965. They accounted for about 55 per cent of Canada's total broiler turkey production last year. In Quebec, broiler turkey marketings rose to 2.5 million birds in 1966, 400,000 more than in the previous year.

Although the central provinces accounted for 56.1 million pounds, or for 86 per cent of Canada's total output of broiler turkey in 1966, the rate of expansion in the broiler turkey sector in British Columbia and Alberta was extremely high, being about 60 per cent in both provinces. Broiler turkey supply flocks were also established in British Columbia for the first time in 1966, and hatcheries in that province will be less dependent in 1967 than in previous years upon hatching eggs and poult import from the United States. Turkey producers in both of these western provinces also established turkey marketing boards with quota control powers, and these boards are functioning in 1967.

Rapid expansion in turkey production will continue in 1967 particularly in the broiler sector, according to the level of broiler poult placements in late 1966 and early 1967. From November to January, broiler poult placements in Canada totaled 2.9 million, up by 29 per cent from the same period a year earlier. Producers in Alberta, Ontario and British Columbia have recorded the largest percentage expansion of 93 per cent, 40 per cent and 16 per cent respectively.

Winter placements of heavy type poults, although comparatively small in relation to broiler poult placements, were also up sharply in December and January from the same months a year earlier. Most of this expansion occurred in Southwestern Ontario and Coastal British Columbia where the climate allows

these birds to be ranged earlier than in other parts of Canada. Many producers have begun raising two broods of heavies per year, rather than the single crop that was formerly the general practice. This development has spread out the operations of the hatchery and processing industries with a subsequent reduction in their unit operating costs.

TABLE 7.—PLACEMENTS OF BROILER TYPE POULTS IN CANADA, BY PROVINCE, NOVEMBER TO JANUARY, 1965-66 AND 1966-67

	1965–66	1966–67	Percentage Change
	thousands		
British Columbia	171	199	+ 16.4
Alberta	55	106	+ 92.7
Saskatchewan	2	2	—
Manitoba	19	40	+110.5
Ontario	1,360	1,903	+ 39.9
Quebec	623	658	+ 5.6
Atlantic Provinces	41	33	− 19.5
Canada	2,273	2,939	+ 29.3

There have not been any significant developments in Canada towards the year-round production of heavy turkey, as is the case with broiler turkey production. The greater space requirements of heavies, increases unit housing costs as compared with similar costs for broilers with which heavy turkeys must compete on a price basis.

In Ontario, a measure of flexibility between broiler and heavy turkey production exists in that many heavy female poults that are hatched early in the season are diverted to broiler production, while many of the heavy male poults are exported to the United States where an earlier demand exists because they may be ranged earlier than is the case in Canada. This has permitted Ontario turkey hatcheries greater flexibility in the management of their supply flock operations.

J. D. F. Kidd

SELECTED FRUIT CROPS

Peaches

Production Trends—Apart from apples, peaches are the most important tree fruit crop in the Canadian fruit industry. The estimated 1961-65 average total farm value of this crop was $6.6 million or about 10 per cent of the total value of fruit production (*1*). The total number of peach trees for commercial production in Canada declined between 1951 and 1961, but since then, total tree numbers have remained constant. According to the 1961 Census, Canada had 1.89 million peach trees on farms with 25 fruit trees or more. This represented a decrease of about 1.3 per cent per year over the 10-year period, with the greatest decline occurring between 1956 and 1961 (Table 1). The average annual decrease in the non-bearing trees in the 10-year period was 3.3 per cent.

Ontario accounted for 81 per cent of the peach trees in Canada. Practically all the peach orchards in Ontario are located in the Niagara District and the decline in the number of trees may be attributed in part to urban development and industrialization which has occurred in this area. Annual surveys of tender tree fruit plantings and removals in the Niagara area suggest that since 1963, tree numbers have remained relatively constant and the proportion of young trees has increased. The other 19 per cent of Canada's peach trees were located in the Okanagan Valley of British Columbia and a small increase in peach tree plantings was reported in this area.

In 1961, Jubilee and Elberta varieties represented 52 per cent of the total number of peach trees in Ontario, while Red Haven and Loring represented 22 per cent of the peach trees one to three years old (*3*). The marketing season is expected to be lengthened in British Columbia in future years because the production of Red Haven (an early maturing variety) continues to increase as young trees come into bearing.

TABLE 1.—PEACHES AND PEARS, NUMBER OF TREES, CANADA, 1951, 1956, 1961

Year	Peaches			Pears		
	Under 5 years	5 years and over	Total	Under 10 years	10 years and over	Total
	number					
1951	870,959	1,337,454	2,208,413	596,877	636,786	1,228,663
1956	n.a.	n.a.	2,088,844	n.a.	n.a.	1,199,981
1961	579,529	1,311,622	1,891,151	361,838	820,181	1,182,019
	per cent					
Change 1951–1961	−33	−2	−14	−39	+29	−4

Source: Census of Agriculture, Canada, 1951, 1956, 1961.

Provincial statistics indicate that yields per acre are increasing. Reports for the Niagara Fruit Belt suggest that the 1958-64 average peach production was about 4.3 tons per acre (*2*). Comparative figures for 1962 and 1964 were 3.4 and 4.8 tons per acre respectively, indicating the range which occurs in yields. With the exception of 1956 and 1965, annual production of peaches in Canada has averaged about 130 million pounds. The decline in Canadian production in 1965 was due to the severe frost damage which almost completely destroyed the British Columbia peach crop, but the 1966 crop was more in line with the 1961-65 average of 2.3 million pounds. In the Niagara Peninsula, Jubilee, Elberta and Vees are the main processing varieties, while Red Haven and Loring are among the main fresh fruit varieties.

Imports and Exports—The fresh market has been steadily taking an increasing share of peach production and it now accounts for about 50 per cent of the crop. Exports are small and the remainder goes for processing (Table 2).

The volume of foreign trade in peaches varies with the size of the crop in Canada and that in the United States. For example, in 1956 there was a short Canadian supply and exports in that year at 3.2 million bushels (in terms of fresh produce) were approximately half of the year earlier figure, while imports were 56.3 and 25.8 million pounds respectively. Between 1960 and 1964, total imports and exports of peaches averaged 68.6 million and 1.0 million pounds, respectively, or a net import of 67.6 million pounds. During the first half of the past decade, exports of peaches were mainly to the United Kindom and the United States, but this trade has declined in recent years (*4*).

During the past five years, practically all Canadian peach imports have been obtained from the United States. However, in the same period, increasing quantities have been obtained from Australia and in 1963 and 1965, imports were 1.9 million and 5.8 million pounds respectively.

Consumption—The average per capita consumption of all peaches during 1960 to 1964 was 10.6 pounds, up 0.3 pounds from 1955-59. Consumption of fresh peaches declined from the earlier five-year period, but this was offset by a rise in the demand for processed peaches. Average total consumption rose from a low of 172 million pounds in 1955-59 to 196.4 million pounds in the 1960-64 period, and has continued to rise each year since. The rise in demand has been accompanied by increasing prices for peaches for processing. In 1965 and 1966, Ontario Jubilees brought $125.50 per ton and other varieties $120.50. This was an advance of $4 from 1964 and marked a continuation of the rising trend of the previous decade.

The Long-Run Outlook—The future development of the Canadian commercial peach crop is limited to the climatically suitable growing areas such as the Niagara District and Essex County in Ontario and the Okanagan Valley in British Columbia. There has been considerable pressure in the Niagara area on agricultural land resources for industrial, residential and recreational use. Provincial statistics on tender tree fruit production in Ontario suggest that since 1963, peach acreage and tree numbers have remained about constant. These factors in themselves suggest increased production from this area in the future due to rising yields. Nevertheless, the possible effect of land reported to have been removed from fruit production cannot be ignored and the impact of this may be more fully assessed when the data from the 1966 Census are published. The Kent-Essex area has been suggested as a possibility of alternate supply, but to what extent this area could replace the Niagara supply is still to be seen (*5*).

Labor is one of the most important inputs of peach production. Cost of production studies on peach growing in Ontario for 1954 to 1956 and adjusted to 1962 price levels indicated that labor constituted 46 per cent of the total costs per acre.

Development up to 1970—In estimating future peach production in Canada one must consider the trend of increased yields per tree, with greater emphasis on early maturing varieties. Moreover, recent surveys indicate that the proportion of young trees to total trees has increased. Therefore, production may recover to reach 130 million pounds once more by 1970. Assuming per capita consumption remains unchanged but allowing for the increase in population, consumption by 1970 may reach 223 to 230 million pounds.

Pears

Production Trends—The farm value of the national pear crop is only about half that of peaches and represents five per cent of the farm value of the Canadian fruit industry. However, there are more areas in Canada that are climatically suitable for the growing of pears. In 1961, there were 1.2 million pear trees in Canada on farms reporting 25 or more fruit trees, or a decline of about four per cent from the 1951 figure (Table 1). The decline appears to have been rapid during the second half of that decade. Increased plantings were reported over the 10 years in British Columbia, Nova Scotia, Quebec and to a lesser extent in other provinces. The decrease which occurred in Ontario, where more than half of the pear trees were located, was sufficient to offset the increase reported in the other provinces and accounted for the decrease in Canada. However, annual surveys of tender tree fruit plantings and removals suggest that since 1962, total pear tree numbers in the Niagara

Fruit Belt of Ontario have remained about constant, although the proportion of young trees during this period has increased.

The figures available from provincial statistics show that there is considerable variation in the yields of pears between different varieties. In 1961, Bartlett and Keiffer varieties represented about 88 per cent of the total number of pear trees in Ontario, and the year earlier average provincial yields of these two varieties were 2.5 and 4.0 tons per acre respectively (*2*). The trend of higher yields per acre or tree which is shown for Ontario, is also evident in some of the other provinces such as British Columbia and Nova Scotia. The Keiffer variety is only common in Ontario, and in other fruit growing areas, for example British Columbia, Bartletts and Anjous are the most common varieties.

Except for 1965, the total commercial production of pears has increased in recent years (Table 2), with higher yields per tree. The 1960-64 average production at 84.5 million pounds represented a 24.3 per cent increase over the previous five-year period.

Imports and Exports—Most of the production from the Keiffer variety of pears in Ontario is used for processing purposes, while Bartletts are used mainly for the fresh fruit market. In recent years, larger quantities of total pear production in Canada have been utilized for the processing and export markets and on the basis of the 1960-64 average, these now take about 52 and 6 per cent respectively of production (Table 2). The remaining 42 per cent is obtained for the fresh market. Between 1960 and 1964, total exports and imports of pears averaged 8.0 million and 31.6 million pounds respectively, or a net import figure of 23.6 million pounds. This represented a decline of 16 per cent from the previous five-year period and was due mainly to the increase which occurred in exports. The direction of this trade has been mainly to the United States and the United Kingdom (*4*).

Consumption—The annual per capita consumption of fresh and processed pears in Canada has remained fairly stable from year to year at around 5.6 pounds (Table 2). An examination of the data on the consumption pattern of either fresh or processed pears shows that very little change in trend can be observed, except in 1963 when a decline in Canadian production combined with smaller imports reduced available supplies. However, in the following year, consumption returned to previous levels, but this was accompanied by a greater than usual proportion of pears being processed, although it is too early to decide that this is a trend for the future.

Between 1960-64, total consumption averaged about 103 million pounds or almost 9 per cent more than the comparable figure for the previous five-year period due to increases in population.

Developments up to 1970—The developments to 1970 depend upon the trend of higher yields per tree or acre along with an increase in the rate of new plantings. A further expansion in production is expected during the next few years, particularly for the Bartlett variety and a gradual increase is also expected in consumption. In accordance with these trends, the crop may reach 110 million pounds by 1970 and consumption may expand to 120 million pounds.

TABLE 2.—PEACHES AND PEARS, PRODUCTION AND CONSUMPTION, SELECTED YEARS AND FORECAST FOR 1970

Commodity	Average 1955–59	Average 1960–64	1964	1965	1966 (Preliminary)	Percentage Change 1955–59 to 1960–64	1970 Forecast
Peaches							
Production (million pounds)	130.4	129.3	143.0	80.3	108.0	− 0.8	130.0
Per cent processed	47.0	46.7					
Per cent used fresh	52.0	53.0					
Per cent exported	1.0	0.3					
Consumption: fresh equivalent							
Total (million pounds)	171.6	196.4	202.2	207.0	211.0	+14.5	229.5
Per capita (pounds)	10.3	10.6					
Pears							
Production (million pounds)	68.0	84.5	100.0	52.0	94.5	+24.3	110.0
Per cent processed	51.0	52.0					
Per cent used fresh	47.0	42.0					
Per cent exported	2.0	6.0					
Consumption: fresh equivalent							
Total (million pounds)	94.9	103.1	115.5	110.0	111.4	+ 8.6	120.0
Per capita (pounds)	5.7	5.6					

Sources: Computed from data published in: Dominion Bureau of Statistics, Seasonal Reports of *Estimates of Commercial Production of All Fruits*, Cat. No. 22-003 and Report of *Apparent Per Capita Domestic Disappearance of Food in Canada*, Cat. No. 32-226.

Notes and References

(*1*) Dominion Bureau of Statistics, *Value of Fruit Production*, 1960 to 1965, Cat. No. 22-003.

(*2*) Annual Reports of Agricultural Statistics for Ontario, Ontario Department of Agriculture, Parliament Buildings, Toronto.

(*3*) G. W. Eaton, O. A. Brandt and C. L. Ricketson, *Fruit Varieties*, Publication 430, Ontario Department of Agriculture, Parliament Buildings, Toronto, Tables 3 and 6.

(*4*) *Trade of Canada*, Annual Reports, D.B.S., Nos. 65004, 65007.

(*5*) The Essex-Kent area has been suggested as a possibility of alternate supply to Niagara peach production, but to what extent this area would replace the Niagara supply is open to debate. The answer to this question is discussed among others more fully by Ralph R. Kueger, Frederic O. Sargent, Anthony de Vos and Norman Pearson, *Regional and Resource Planning in Canada*, Holt, Rinehart and Winston of Canada Limited, Toronto. 1963, Part II Resource Planning, pp. 125-129.

D. M. MacKay

OILSEEDS

Rapeseed

The Canadian rapeseed crop for 1966-67 was estimated at 25.5 million bushels, up 13 per cent from 22.6 million bushels in 1965-66.

Canadian exports for 1966-67 are running about level with 1965-66, but with the large 1966 crop, higher exports and higher domestic consumption are looked for. In the last five months of 1966, four million bushels were crushed. Out of 5.7 million bushels of exports from August, 1966 to the end of January, 1967, almost 4.5 million bushels have gone to Japan, more than 500,000 bushels to the Netherlands, 318,000 bushels to Italy, and 211,000 bushels to West Germany. A small quantity of about 45,000 bushels has gone to the United Kingdom. Several European countries have had smaller crops than usual and further sales to Europe and Japan are anticipated.

About 25 per cent of the total edible oil used in Canada is rapeseed oil. Total rapeseed oil produced in Canada in 1966 exceeded 80 million pounds from total crushings of about 214 million pounds. Rapeseed crushed in December was about 25 million pounds compared with 15 million pounds in 1965, and total crushings for the year were up by 80 million pounds.

Weekly average prices in late September and October, 1966 for No. 1 Canada Rapeseed, basis in store Fort William, were generally between $2.60 and $2.70 per bushel, but started rising in late November and reached a peak in December of $2.87. Since that time, prices have eased slightly and for the week of February 11, 1967, averaged $2.81¾. For the week ended February 12, 1966, prices had been higher, averaging $2.99.

Trade reports indicate the probability of increased marketings in Japan and several European countries, as well as the likelihood of an increased share of the domestic edible oil market being served by rapeseed.

Flaxseed

Flaxseed production at 23.6 million bushels in 1966 was down by 19 per cent from the previous year's production of 29.3 million bushels. Smaller crops also were produced in the United States, down to 23.9 million bushels from 35 million in 1965, and in Argentina, down to 20.6 million bushels from 22.4 million.

Exports of flaxseed from Canada in 1966-67 have been running slightly ahead of 1965-66. In the first six months of the crop year, exports amounted to about 10 million bushels. Principal importing countries have been Japan, the Netherlands and other Western European countries.

For the calendar year of 1966, domestic crushings were down from 159 million pounds to 138 million pounds. December crushings in 1966 were only 9 million pounds compared with 19 million for the corresponding month in 1965.

Soybeans

Canada's production of soybeans in 1966-67 was 8.7 million bushels, compared with just over 8 million bushels in 1965-66. Canada is not a large producer, relative to the United States, where the 1966-67 crop was estimated at a record 931.5 million bushels. This figure was much higher than early season estimates and compared with the 1965-66 crop of 845 million bushels. From October 1, 1966 to the end of January, 1967, United States exports were running about even with levels of a year earlier, although an increase for the year had been forecast. Domestic demand for soybean meal, on the other hand, has increased. Prices for soybeans in the United States have been gradually declining since September 1966.

Canadian exports of soybeans and soybean meal are down in 1966-67 from 1965-66. Exports of meal during the first nine months of 1966 were under 3.2 million cwt. compared with 3.7 million for the same period of 1965. Exports of beans were down from 2.5 to 2 million bushels. Canadian soybean crushings for December, 1966 were 81.6 million pounds compared with 112 million in 1965.

Prices for No. 2 Soybeans basis f.o.b. Chatham, were firm in early September, 1966 and in the week of September 23 were $3.14 per bushel, but in 1967 to date, prices have been consistently below $3.00, with figures in mid-February of around $2.90. Average prices for 1965-66 were about $3.00 per bushel.

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Canada exports sizeable quantities of soybean meal, largely to the United Kingdom. Imports of soybeans are almost all from the United States, a total 17.1 million bushels in 1965. For this reason, United States prices have a major influence on Canadian prices. In early February, 1967 the United States announced price support at $2.50 per bushel, the same level as in 1966. By the end of January, 1967 U.S. growers had entered 135.7 million bushels under loan and had redeemed only 5.9 million bushels. This reflected the attractions of the support program and is interpreted by trade analysts to mean that growers are trying to hold out for $3.00 prices in the market.

J. S. Carmichael

TRENDS IN AGRICULTURAL PRODUCTIVITY

I. F. Furniss

The purposes of this paper are to measure the trends in overall agricultural productivity in Canada, both at the national level and by regions. These trends have been determined by constructing constant dollar indexes of total output and total inputs (*1*). The relationship of the index of total output to the index of total inputs is defined in this paper as the "productivity ratio," or simply as "agricultural productivity."

NATIONAL TRENDS

Productivity Growth

Overall agricultural productivity in Canada has been increasing at an estimated annual rate of 2.4 per cent from 1946 to 1965 or 2.0 per cent from 1935 to 1965 (*2*). In 1965, the productivity ratio stood at 165 (1949 = 100) compared with an average of 89 in the period 1935-39 (Table 1). This was the second highest level reached by the productivity index during the period 1935 to 1965, being exceeded only by that for 1963. The rate of increase in productivity since 1946 is the result of an annual increase of 1.9 per cent in farm output and a decline of 0.4 per cent a year in production inputs.

The trends in Canadian farm productivity are shown graphically in Figure 1. This chart shows that the trend in productivity is closely associated with the trend in farm output, particularly since total farm inputs have been relatively constant. Farm inputs declined somewhat during the years of World War II and then rose in the years immediately following. During the war years there was a decline in the real estate and labor inputs. Although capital inputs rose during this period, the increase was not sufficient to offset the decreases in the other two categories. The postwar peak in farm inputs, occurring in 1946 and 1947, was attributable to an upsurge in the farm labor force and to increased purchases of machinery, live stock, feed and fertilizer, all at much the same time. Following this postwar peak in farm inputs, a gradual

TABLE 1.—INDEXES OF OUTPUT AND INPUTS AND PRODUCTIVITY RATIOS, CANADIAN AGRICULTURE, 1935 TO 1965 (1949 = 100)

Period or Year	Farm Output	Production Inputs	Productivity
1935–39	85	95	89
1940–45	107	93	115
1946–50	106	102	104
1951–55	124	94	131
1956–60	128	93	138
1961	116	93	124
1962	144	94	154
1963	159	96	166
1964	149	97	153
1965	161	98	165
1961–65	146	96	152
		per cent	
Annual growth rates:			
1935 to 1965	+2.0	+0.01	+2.0
1946 to 1965	+1.9	−0.4	+2.4

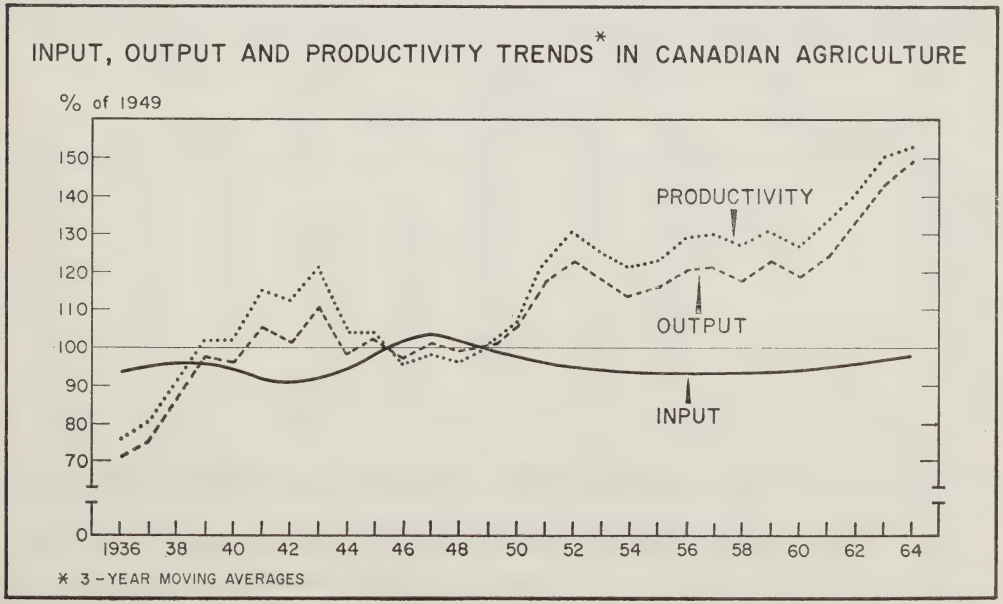


FIGURE 1

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decline commenced, reaching a low in 1957 when the index stood at 91 (1949 = 100). Since that year there has been a gradual rise in inputs but, up to 1965, the total continued to be below that of 1949.

Changes in Inputs

Since 1946 there has been a fractional decline of 0.4 per cent a year in all farm inputs. The decline in all farm labor of 3.6 per cent a year has been offset largely by increased use of capital inputs in the form of machinery, purchased feeds, fertilizers and a host of other purchased goods and services (Table 2). This grouping of inputs has increased since 1946 at a rate of 2.2 per cent a year. Real estate inputs, representing land, buildings and property taxes, also have been rising, by almost one per cent a year. Percentage increases in the other input categories from the average for the 1946-50 period to 1965 were: 47 per cent for machinery and equipment; 44 per cent for purchased feed and seed; 164 per cent for fertilizer and limestone; and 39 per cent for the miscellaneous capital grouping, which includes pesticides and other specialized inputs. Total capital inputs were up by 49 per cent from 1946-50 to 1965 while all inputs decreased by 4 per cent.

The relative importance of the major groupings of farm inputs are illustrated graphically in Figure 2. This chart shows quite clearly the substitution for labor by machinery and other specialized purchased inputs which has taken place during the period reviewed. These trends are continuing. The proportion of capital inputs, estimated for 1965 at 49 per cent of the total, showed a one per cent increase from 1964. Labor declined from 29 per cent of total inputs in 1964 to 28 per cent in 1965. Real estate inputs, however, were unchanged from the 1964 level at 23 per cent.

These changes in resource combination can be further illustrated by examining the shift by farmers from non-purchased to purchased inputs (*3*). Purchases by farmers of production inputs in 1965 were estimated to be over 4 per cent higher than in 1964 and to comprize 51 per cent of the total (Table 3). This compares with 30 per cent in the 1935-39 period.

Factor Productivity

In the first section of this paper, agricultural productivity was expressed by relating total output to total inputs. Broadly classified, total inputs include three main factors (or agents) of production—real estate, labor and capital. (In this paper capital inputs include both purchased, i.e. intermediate inputs, and non-purchased inputs.) These three factor inputs (*4*) together produced sufficient output to result in an annual rate of growth in overall productivity of 2.0 per cent since 1935 or 2.4 per cent since 1946 (Table 1).

TABLE 2.—INDEXES OF INPUTS, CANADIAN AGRICULTURE BY SELECTED CATEGORIES, 1935 TO 1965 (1949 = 100)

Period or Year	Real Estate[a]	Labor[b]	Capital					Total Inputs
			Machinery and Equipment[c]	Purchased Feed and Seed	Fertilizer and Limestone	Miscellaneous[d]	Total	
1935–39	112	116	52	41	35	73	52	95
1940–45	100	102	66	83	57	82	73	93
1946–50	101	102	96	115	92	100	102	102
1951–55	100	81	119	96	108	105	110	94
1956–60	107	67	125	130	122	116	124	93
1961	112	63	123	131	154	132	128	93
1962	114	61	129	132	168	131	132	94
1963	114	60	133	142	188	141	139	96
1964	114	58	137	150	225	147	146	97
1965	116	55	141	165	243	139	152	98
1961–65	114	60	133	144	196	138	139	96
					per cent			
Annual growth rate, 1946 to 1965	+0.9	−3.6	..	..	..	..	+2.2	−0.4

[a]Includes interest on investment, depreciation and repairs on buildings, and property taxes for both owned and rented real estate.

[b]Total farm labor force (farm operators, unpaid family labor and hired labor).

[c]Includes fuel and other purchased items associated with machinery operation plus interest on investment and depreciation.

[d]Includes electric power, interest on investment in livestock and purchased livestock, pesticides and other purchased inputs (see note 10).

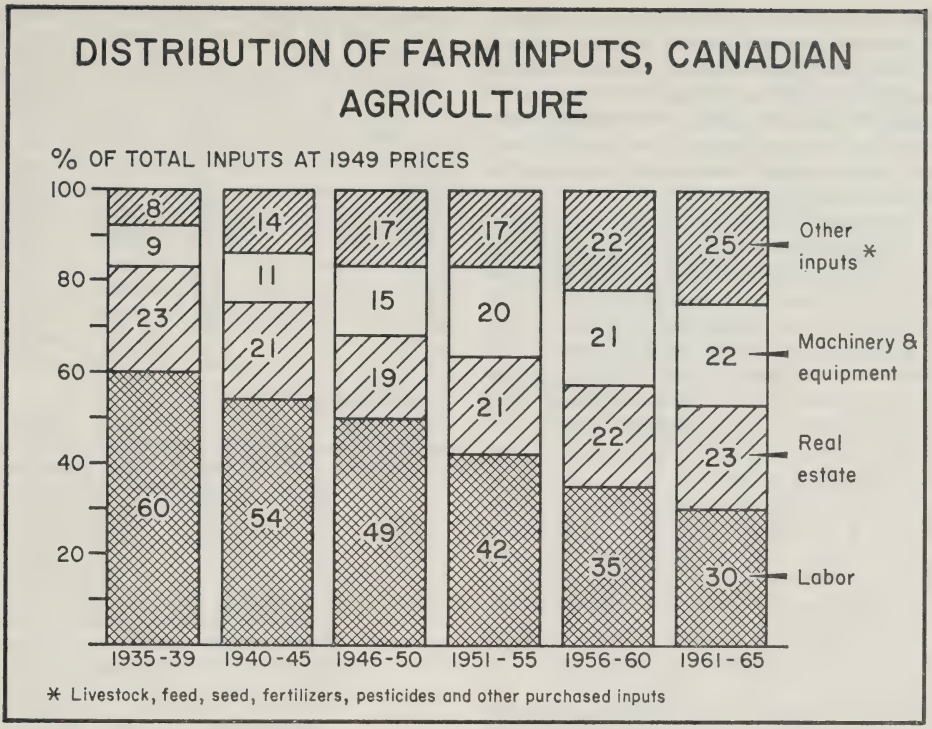


FIGURE 2

TABLE 3.—INDEXES AND DISTRIBUTION OF PURCHASED AND NON-PURCHASED INPUTS, CANADIAN AGRICULTURE, 1935 TO 1965 (VALUED AT 1949 PRICES)

Period of Year	Purchased Inputs	Non-Purchased Inputs	Purchased Inputs	Non-Purchased Inputs
	1949 = 100		per cent of total inputs	
1935–39	75	107	30	70
1940–45	80	101	33	67
1946–50	101	103	37	63
1951–55	98	92	39	61
1956–60	110	83	45	55
1961	115	80	47	53
1962	118	80	47	53
1963	123	80	48	52
1964	126	80	49	51
1965	131	77	51	49
1961–65	123	79	48	52

Note: Purchased inputs includes the interest, depreciation and repairs on rented buildings and the interest on investment in rented land. Property taxes on both owned and rented land and buildings are considered as purchased inputs.

Productivity growth can be the result of improved efficiency in the combination of factor inputs in the production process, of improvements in the quality of resources used, and of an increase in the quantity of resources employed (*5*). Factor productivity is an attempt to measure the change in output due to the change in each of the factors of production. If we were simply to divide the index of total output by the labor input index, for example, we would not have a measure of "labor productivity" but of "output per man." (Output per man can be labor productivity if all of the change in output is directly attributable to

labor.) The increase in output per man in Canadian agriculture has come about in part because a declining labor force has utilized increasing quantities of capital inputs. The effect of each major component may be estimated by regression analysis. In this paper, factor productivity means the ratio of the index of total output to the index of factor inputs, constructed as indicated in note (6).

Overall labor productivity (7) in Canadian agriculture appears to have been increasing since 1935 at a rate of 3.2 per cent a year or 3.6 per cent since 1946 (Table 4). This latter rate of increase, it will be noted, corresponds with the annual rate of decrease in the farm labor force. During the same two periods, the productivity of real estate has risen at annual rates of 1.9 per cent, while that of capital has advanced 0.8 per cent since 1935 or 1.1 per cent since 1946.

In the 1935-65 period, the three factor inputs together explained 69 per cent of the variation in output. The unexplained part would be due to other factors, such as weather, which were not measured. In the more recent period, the measured variables explained 66.5 per cent of the variations in output. Capital was the most important factor associated with the variation in output in the 1935-65 period, while labor was the most important factor from 1946. Changes in output were directly associated with changes in capital inputs but were inversely associated with changes in real estate and labor in both periods. In other words, increases in output were associated with decreases in real estate and labor inputs.

TABLE 4.—FACTOR PRODUCTIVITY RATIOS, CANADIAN AGRICULTURE BY MAJOR FACTOR INPUTS, 1935 TO 1965 (1949 = 100)

Period or Year	Real Estate	Labor	Capital (all other inputs)
1935–39	83	79	101
1940–45	107	106	118
1946–50	105	104	105
1951–55	123	136	120
1956–60	126	152	119
1961	113	141	106
1962	140	177	130
1963	154	197	141
1964	144	186	129
1965	156	206	138
1961–65	142	181	129
		per cent	
Annual growth rates:			
1935 to 1965	+1.9	+3.2	+0.8
1946 to 1965	+1.9	+3.6	+1.1

Notes: (1) Factor productivity is defined as the ratio of the index of total output to the indexes of factor inputs, constructed by aggregating the input in each year of the selected factor with the mean inputs for the 1935–65 period of the other two factors.

(2) The use of the means for the 1935–65 period in the construction of these indexes resulted in some upward bias for the labor and capital productivity indexes, especially in the 1960's. No bias was evident in the real estate productivity index. Reconstructing the indexes for the period 1946–65 using the means of this period reduced the level of the labor productivity index by 4 index points, for example, in 1965 and reduced the annual growth rate for this period to 3.5 per cent. The bias in the capital productivity index was reduced by 2 index points in 1965 but the annual growth rate remained unchanged.

TABLE 5.—INDEXES OF OUTPUT AND INPUTS AND PRODUCTIVITY RATIOS, CANADIAN AGRICULTURE BY REGIONS, 1946 TO 1965 (1949 = 100)

Index and Region	1946–50	1951–55	1956–60	1961	1962	1963	1964	1965	1961–65	Annual Growth Rate, 1946–65
										per cent
Farm Output										
Maritimes	99	96	98	100	99	101	105	103	102	−0.1
Quebec	103	110	120	129	136	138	139	143	137	+1.9
Ontario	98	105	120	132	135	137	144	145	139	+2.3
Prairies	113	145	140	100	159	188	159	185	158	+1.8
British Columbia	97	105	119	135	141	143	151	150	144	+2.6
Production Inputs										
Maritimes	104	81	79	80	72	65	69	67	70	−2.4
Quebec	106	93	86	83	82	82	80	83	82	−1.7
Ontario	102	95	93	91	92	97	97	96	94	−0.5
Prairies	100	95	93	95	98	100	102	101	99	−0.1
British Columbia	97	87	98	106	110	102	108	111	107	+0.9
Productivity										
Maritimes	96	119	124	125	139	155	154	154	145	+2.6
Quebec	98	118	140	156	165	168	175	172	167	+3.6
Ontario	96	111	129	146	147	142	149	150	147	+2.9
Prairies	113	153	151	105	162	188	156	183	159	+2.0
British Columbia	100	122	121	127	128	141	140	136	134	+1.7

REGIONAL AGRICULTURAL PRODUCTIVITY *(8)*

Productivity Growth

Since 1946, the rate of agricultural productivity growth has been highest in Quebec, 3.6 per cent a year (*9*), followed by Ontario with a growth rate of 2.9 per cent (Table 5). In Quebec, the increase in productivity is a combination of an annual increase of 1.9 per cent in farm output and a decline of 1.7 per cent in inputs. The Maritime region showed a fractional decrease of 0.1 per cent a year in output but the rate of decrease in inputs was greater, 2.4 per cent a year, with a resultant increase in productivity of 2.6 per cent a year.

On the Prairies, farm output rose from 1946 at a rate of 1.8 per cent a year while inputs declined fractionally. Consequently, agricultural productivity in this region increased at 2.0 per cent a year. The heavy weight which Prairie agriculture carries in the all-Canada indexes is reflected in the close correspondence between the growth rates for the region and for Canadian agriculture as a whole, 2.3 per cent a year since 1946.

British Columbia agriculture showed the highest rate of growth in farm output, 2.6 per cent a year. However, production inputs also rose, by almost one per cent annually, with the result that the rate of productivity growth was the lowest for the five regions, or 1.7 per cent a year.

Changes in Inputs

The shifts which have occurred since 1946 in the composition of farm inputs help to explain the differences in productivity growth among the five main regions of Canada (Table 6).

In the Maritimes, real estate inputs declined by 1.5 per cent a year. All other regions showed increases, although that for Quebec was only fractional. The highest rate of increase in farm real estate inputs was in British Columbia, an estimated 2.2 per cent a year since 1946.

Labor inputs declined in all regions, with the greatest decrease being in Quebec, 4.7 per cent a year, followed by the Maritimes with a decrease of 4.2 per cent a year. This high rate of decrease in the Quebec farm labor force is the main contributing factor to the overall productivity growth rate in that province.

The annual rate of growth in capital inputs in Quebec was higher than that of Ontario, but below the rates for the Prairies and British Columbia. British Columbia had the highest rate of growth in capital inputs, 2.5 per cent a year. This is the principal factor contributing to the productivity growth rate shown by this region. (The growth rate in total output was almost exactly the same as the growth rate in capital inputs.) In the Maritimes, there was a fractional annual decline in capital inputs.

Thus, the Maritime region has shown a decrease in all of the three major factors of production. Farm output also declined fractionally but, since the decrease in all inputs was greater, this region showed an increase in productivity exceeding that of the Prairies and British Columbia. The case of the Maritimes illustrates the effect which an adjustment in resource use can have on productivity growth when total output remains constant, or almost so.

In Table 6, the rates of change in the three major categories of farm inputs are presented by region. Within the capital grouping, however, there have been important differences in the trends of the various

TABLE 6.—INDEXES OF INPUTS, CANADIAN AGRICULTURE BY REGION AND MAJOR CATEGORIES, 1946 TO 1965 (1949 = 100)

Index and Region	1946–50	1951–55	1956–60	1961	1962	1963	1964	1965	1961–65	Annual Growth Rate, 1946–65
										per cent
Real Estate										
Maritimes	102	91	82	79	79	79	80	82	80	−1.5
Quebec	102	102	103	105	106	106	102	104	105	+0.1
Ontario	101	101	111	120	122	124	125	127	124	+1.4
Prairies	102	97	103	107	109	109	110	110	109	+0.5
British Columbia	97	103	120	130	133	131	132	135	132	+2.2
Labor										
Maritimes	104	68	66	68	54	42	47	42	51	−4.2
Quebec	105	85	65	57	54	51	47	48	52	−4.7
Ontario	102	82	66	57	55	60	56	53	56	−3.8
Prairies	102	82	70	69	69	69	68	63	68	−2.8
British Columbia	90	67	69	73	73	49	59	59	63	−2.0
Capital (all other inputs)										
Maritimes	105	101	102	103	101	104	105	107	104	−0.1
Quebec	108	108	124	130	134	140	142	152	140	+1.7
Ontario	104	107	118	119	123	130	134	135	128	+1.4
Prairies	96	112	119	124	130	138	146	150	138	+2.3
British Columbia	106	104	125	137	146	156	160	168	154	+2.5

items. In the Maritimes, although the major declines in farm inputs were for labor and real estate, decreases from 1946-50 to 1961-65 occurred also for livestock, feed and seed, and fertilizers and limestone. Inputs of machinery rose by about one-quarter and electric power consumption doubled. The Maritime region was the only one of the five areas studied that showed a decrease in fertilizer use. However, 1959 marked the low point in fertilizer consumption in the Maritimes; it has been rising slowly since then.

In Quebec, all major input components, including the various subgroupings of the capital input component, showed increases in the 1961-65 period compared with the five-year period, 1946-50, with the exception, as noted before, of labor. Machinery inputs were up by almost 70 per cent; fertilizer and limestone by 56 per cent; and electric power by more than three and a half times. Miscellaneous inputs were up by over a fifth (*10*).

One notable difference in the trends between Ontario and Quebec has been a reduction of 6 per cent in purchased feed and seed in Ontario compared with an increase of 11 per cent in Quebec. Fertilizer and limestone consumption by farmers in Ontario was up by two and a half times. Miscellaneous inputs, including pesticides, rose by 32 per cent in Ontario.

On the Prairies, all major input components, with the exception of labor, increased from 1946-50 to 1961-65. Livestock inputs were up by 86 per cent, fertilizer by fivefold and electric power by thirteen times. In British Columbia, the notable features of the changes in resource use between 1946-50 and 1961-65 were the increases of 36 per cent in real estate and of 45 per cent in capital inputs. The increase in these capital inputs was distributed more uniformly among the various items than possibly in the other regions. The overall increase of 45 per cent represented increases of 57 per cent in machinery; 81 per cent in livestock; 35 per cent in purchased feed and seed; 76 per cent in fertilizer and limestone; and almost three and a half-fold in electric power. Miscellaneous inputs, including pesticides and irrigation water, rose by 15 per cent.

SUMMARY AND CONCLUSIONS

Since 1946, the rate of increase in Canadian agricultural productivity has averaged 2.4 per cent annually. Regionally, Quebec has shown the fastest growth rate, 3.6 per cent a year. One of the major contributing factors has been the greater relative decrease in the Quebec farm labor force while output has increased at a rate of almost two per cent a year.

There have been some notable differences by region in the combinations of factor inputs. While all regions have shown decreases in the labor input, the Maritimes showed a decline, also, in real estate and capital inputs. Since farm output in this region decreased only fractionally, an increase in productivity occurred.

However, the trends in agricultural productivity for Canada as a whole reflect very much the situation in the Prairies where the trends are closely comparable with the national situation.

In terms of the three main factors of production (real estate, labor and capital), capital inputs appear to have been the most important single factor contributing to productivity growth since 1935. However, from 1946, the decline in the farm labor force appears to have been the most important single factor contributing to productivity growth.

ACKNOWLEDGEMENTS

The basic data used in these computations were obtained from the Farm Finance Section, Agriculture Division and the Prices Division, both of the Dominion Bureau of Statistics.

Miss Mary Wilman assisted in the computation and analysis of the data. The assistance of the author's colleagues in the Canada Department of Agriculture is also acknowledged.

NOTES AND REFERENCES

(*1*) In 1966, the Dominion Bureau of Statistics completed extensive revisions to the farm income and expense series (see: Dominion Bureau of Statistics, *Farm Net Income*, Cat. No. 21-202, Sept. 1966). These revisions have been incorporated in the construction of the index of production inputs. Revisions have been completed also by the Bureau to the *Index of Farm Production*, going back to 1947, which increase the coverage of this index. These revisions have been incorporated in the index of "farm output" used in this paper, which is a special adaptation of the DBS "Index of Farm Production." These changes in the basic data used in the construction of the overall productivity ratios for Canadian agriculture have had some effect, as is to be expected, on the estimated trends in farm output, production inputs and productivity. However, they do not notably modify the trends reported on previously (see: I. F. Furniss, Productivity Trends in Canadian Agriculture, 1935 to 1964, *Canadian Farm Economics*, Vol. 1, No. 1, April, 1966, pp. 18-22). In the case of the index of total farm inputs, a fractional decline was indicated for the period 1935-64 of 0.3 per cent a year (on the basis of fitting a straight-line trend by the method of ordinary least squares to the logarithms of the data). With the revisions to the data and the addition of data for 1965, the calculated trend in farm inputs for the 1935 to 1965 period was fractionally upward, i.e. about 0.01 per cent a year.

(*2*) All rates of change given in this paper, unless otherwise specified, are compound annual rates.

(*3*) Non-purchased inputs represent the interest on the investment in real estate, livestock and machinery of the farm operator, together with his labor and that of his family. Non-purchased inputs also include the depreciation on owned buildings and machinery. Purchased inputs represent rented real estate, all building repairs, property taxes, hired labor, machinery repairs and operating inputs, interest on purchased livestock, pur-

chased feed and seed, fertilizer, limestone, pesticides and other purchased goods and services. All inputs were valued at 1949 prices.

(4) In this paper, "factor input" is used in the sense of "agent of production," including those agents of production provided both by the farm sector and those purchased from the non-farm sector. This latter category of inputs has been described by other authors as "intermediate inputs" or "non-factor inputs," with the term "factor inputs" being reserved for those inputs provided by the farm sector.

(5) See: W. E. Duffett, Productivity Measurement and Problems, *Proceedings of the Canadian Manufacturers Association 95th Annual General Meeting*, June 5-7, 1966, pp. 113-118 for a discussion on this topic.

(6) The indexes of factor inputs were constructed by aggregating the input in each year of the selected factor with the mean inputs for the 1935-65 period of the other two factors. These indexes of factor inputs were then related individually to the index of total farm output to obtain a "factor productivity" ratio. The growth rates were calculated by fitting a straight-line trend to the logarithms of the data. The data were tested for serial correlation of the residuals using the Durbin-Watson d test. The test indicated that negative serial correlation was present in the real estate factor productivity index (0.5 probability level) but not present in the labor and capital factor productivity indexes.

The relative importance of the major input factors in explaining the variations in output was tested by multiple regression analysis using the data for the two time periods, 1935-65 and 1946-65. The derived equation for the 1935-65 period (standard errors in brackets) was as follows:

$$\log X_4 = 3.102 - \underset{(0.4679)}{0.4916 \log X_1} - \underset{(0.2527)}{0.5005 \log X_2} + \underset{(0.1628)}{0.1795 \log X_3}$$

$$R^2 = 0.691$$

Where X_1 = real estate input
X_2 = labor input
X_3 = capital (all other) input
X_4 = total farm output (the dependent variable)

In this analysis, capital was the most important variable explaining the variations in output, followed by labor and then real estate. The standard errors were less than the corresponding b-values for all input factors.

The derived equation for the 1946-65 period (standard errors in brackets) was as follows:

$$\log X_4 = 1.6820 - \underset{(0.7761)}{0.1173 \log X_1} - \underset{(0.3510)}{0.3097 \log X_2} + \underset{(0.7776)}{0.4486 \log X_3}$$

$$R^2 = 0.665$$

In this analysis, labor was the most important variable explaining the variations in output, followed by capital and then real estate. However, the standard errors exceeded the corresponding b-values in all cases, especially the b-values associated with real estate and capital.

(7) Not to be confused with the index of Gross Domestic Product in real terms, published by the Dominion Bureau of Statistics (DBS *Daily Bulletin*, June 7, 1966). This index shows a rate of growth in real Gross Domestic Product per man employed in agriculture of 5.3 per cent a year for the period 1946-65. Real Gross Domestic Product represents the value added to the economy by the various sectors. Thus, this is a different measure of labor productivity since our measure of output refers to the gross physical volume of agricultural production.

(8) In this paper, the various regions were delineated as follows, by province: Maritimes—Prince Edward Island, Nova Scotia, and New Brunswick; Quebec—Quebec; Ontario—Ontario; Prairies—Manitoba, Saskatchewan and Alberta; British Columbia—British Columbia; and Canada—total of the above and therefore excluding Newfoundland, the Yukon and N.W.T. in all instances.

(9) An earlier study of regional agricultural productivity trends for the periods 1944-48 to 1954-58 reported a similar trend. In the words of the author: "It is clear that Quebec made the greatest relative gain over the ten-year period because it faced more favorable price-cost relationships and had a lower rate of substitution of capital for labor then was general elsewhere in Canada." See: W. Mackenzie, Regional Changes in Income, Terms of Trade and Productivity within Canadian Agriculture, *Can. Jour. Agric. Econ.*, Vol. XI, No. 2, 1963, p. 50.

(10) "Miscellaneous Capital Inputs," unless otherwise specified, include: farm share of electric power, fruit and vegetable containers, nursery stock, veterinary, twine, irrigation charges, pesticides. fencing, breeding fees, breed association fees and other miscellaneous purchased goods and services.

FARMING IN THE PEMBERTON VALLEY OF BRITISH COLUMBIA

M. M. Sorboe

The purpose of this paper is to report the findings of an economic survey of farming in the Pemberton Valley of British Columbia. This survey was undertaken by the Economics Branch of the Canada Department of Agriculture to provide a description of the agricultural potential of the area. The area of the Pemberton Valley, as described here, includes Pemberton Meadows and the valley of the Lillooet River above Lillooet Lake. It is located in the Coast Mountain Range, about 115 miles north of Vancouver by road.

The area is served by the Pacific Great Eastern Railway which extends from North Vancouver through Pemberton to Prince George. Also, a new highway connects the area with the coastal ports of Squamish and Vancouver. These facilities serve as vital links in transporting the produce of the area to the market places. When the new road is extended from Pemberton to Lillooet, it will serve as a scenic drive for tourists as well as providing an important alternative route between the coast and interior points (*1*).

Physical Characteristics

Agricultural development of the Pemberton Valley was hampered initially by seasonal flooding of the Lillooet River and by the lack of accessibility. Extensive reclamation by dyking and drainage was done by special agreement with the Prairie Farm Rehabilitation Administration which recovered about 12,000 acres of bottom land suitable for agriculture. There is an estimated 20,000 acres of arable land in the Lillooet Valley of which Pemberton Meadows forms a substantial part. In 1951 about 7,000 acres were privately owned and an additional 4,000 acres were held as Indian Reserve (*2*, p. 75). In that year only about 1,000 acres of the privately owned lands were under cultivation, but at present at least 2,500 acres are being cropped (*3*).

The Pemberton Valley lies at an altitude of 800 feet above sea-level and has about 36 inches of precipitation annually. Over a period of 42 years, the average temperature in January and July has been 23°F. and 64°F., respectively. The last spring frost occurs about May 20 and the first fall frost about September 28; recordings have indicated an average of 134 frost-free days per season (2, p. 15).

Moist Pacific air frequently flows up the Cheakamus Valley from Howe Sound and spills into the Lillooet Valley. These Pacific air masses have a moderating influence on the climate of the area. Temperatures, therefore, are generally less severe in the winter and cooler in the summer at Pemberton than they are at points on the leeward side of the coastal range.

Method of Study

The data reported in this paper were obtained through an interview survey with all the farmers in the Pemberton Valley. These numbered 38 farmers, with one-third being classified as full-time farm operators.

TABLE 1.—AVERAGE FARM CAPITAL AND PERCENTAGE DISTRIBUTION, 18 FARMS, PEMBERTON VALLEY, 1965

	Full-time Farms		Part-time Farms	
Number of farms	6		12	
	dollars per farm	per cent	dollars per farm	per cent
Land—				
Improved	31,697	45.0	18,157	37.8
Unimproved	3,225	4.6	7,749	16.1
Total land	34,922	49.6	25,906	53.9
Buildings—				
House	5,777	8.2	7,313	15.2
Other	4,518	6.4	5,168	10.8
Total buildings	10,295	14.6	12,481	26.0
Total real estate	45,217	64.2	38,387	79.9
Equipment—				
Special	3,741	5.3	2,823	5.9
General	2,723	3.9	2,787	5.8
Irrigation	623	0.9	—	—
Total equipment	7,087	10.1	5,610	11.7
Livestock	6,291	8.9	3,250	6.8
Crops on farms	11,796	16.8	766	1.6
Other	21	[a]	11	[a]
Total capital investment	70,412	100.0	48,024	100.0

[a] Less than 0.5 per cent.

Detailed farm business data for the 1965 calendar year were obtained for 18 farm operations, which were subsequently classified into six full-time and 12 part-time farms. The criterion employed in separating the farms into these two groups was that the size of full-time operations had to be equal to, or greater than, 200 productive-man-work units for the year. All of the farms that met this requirement had at least one man-equivalent of labor.

RESULTS OF THE STUDY

Farm Capital

Data on capital and capital indebtedness are shown in Tables 1 and 2. The crop inventory for full-time farmers, at $11,796, amounted to 16.8 per cent of the total capital. The normal practice in this area is to carry a substantial amount of the seed potato crop over into the following year. However, if the farm business records had been taken on a spring-to-spring basis, very little if any cash crop would have been on hand at these dates.

The six full-time farms were capitalized at an average of $70,412 and the part-time operations at an average of $48,024. About 50 per cent and 54 per cent of total capital were invested in land for full-time and part-time farms, respectively. The latter group generally had newer homes and consequently had a larger proportion of their capital invested in the house. Part-time operators had a larger proportion of their total capital invested in equipment but the full-time operators had a relatively larger investment in livestock.

TABLE 2.—AVERAGE FARM LIABILITIES, 18 FARMS, PEMBERTON VALLEY, 1965

	Full-time Farms	Part-time Farms
Number of farms	6	12
	dollars per farm	
Owing beginning of the year	1,245	4,181
Borrowed during the year	833	2,633
Paid during the year		
Principal	717	488
Interest	110	225
Owing at the end of the year	1,361	6,326
Increase in debt	116	2,145
	per cent	
Debt at the end of the year as a percentage of the average capital investment	1.9	13.2

The part-time farmers increased their long-term capital liabilities by an average of $2,145 during the year (Table 2). At the end of the 12-month period this group had outstanding capital debts of $6,326 per farm compared with $1,361 for the full-time operators.

The relatively large capital debt of part-time operators reflects the influence of three loans exceeding $14,000 each, and several large Veterans' Land Act contracts. Four full-time farmers had a capital indebtedness not exceeding $3,000 each at the end of the year.

Financial Summary

Tables 3, 4, and 5 provide data on farm receipts, expenses, operator's labor income and earnings. Operator's labor income represents the net return to the farmer for his labor and management after deducting from family farm income a charge of 5 per

TABLE 3.—AVERAGE FINANCIAL SUMMARY, 18 FARMS, PEMBERTON VALLEY, 1965

	Full-time Farms	Part-time Farms
Number of farms	6	12
	dollars per farm	
Crop sales—Potatoes	9,746	349
—Other crops	122	44
Total crops	9,868	393
Livestock sales—Cattle	1,897	1,124
—Other livestock	24	7
Total livestock	1,921	1,131
Custom work	—	74
Other farm product sales	47	108
Total current receipts	11,836	1,706
Capital receipts	—	497
Net inventory increase	7,368	2,048
Total farm receipts	19,204	4,251
Crop expenses	1,235	247
Feed purchases	244	339
Cattle purchases	917	615
Other livestock expenses	107	29
Equipment expenses	928	498
Building and fence repairs	232	38
Hired labor	1,426	123
Custom work	242	77
Real estate charges	492	280
Other current expenses	1,179	189
Total current expenses	7,002	2,435
Capital expenses	3,340	3,224
Total farm expenses	10,342	5,659
Family farm income	8,862	−1,408
Less—Interest on investment	3,521	2,401
—Unpaid family labor	1,035	229
Operator's labor income	4,306	−4,038
Plus: Perquisites—Farm products	363	196
—Use of house	578	731
Operator's labor earnings	5,247	−3,111
Non-farm income—Earned	178	4,642
—Transfer income	60	364

TABLE 4.—AVERAGE CURRENT FARM RECEIPTS AS PERCENTAGES OF TOTAL CURRENT FARM RECEIPTS, 18 FARMS, PEMBERTON VALLEY, 1965

	Full-time Farms	Part-time Farms
Number of farms	6	12
	per cent of total	
Crop sales—Potatoes	82.4	20.4
—Other crops	1.0	2.6
Total crops	83.4	23.0
Livestock—Cattle	16.0	65.9
—Other livestock	0.2	0.4
Total livestock	16.2	66.3
Custom work	—	4.4
Other farm products	0.4	6.3
Total current farm receipts	100.0	100.0

TABLE 5.—AVERAGE CURRENT FARM EXPENSES AS PERCENTAGES OF TOTAL CURRENT FARM EXPENSES, 18 FARMS, PEMBERTON VALLEY, 1965

	Full-time Farms	Part-time Farms
Number of farms	6	12
	per cent of total	
Crop expenses	17.6	10.1
Feed purchases	3.5	13.9
Cattle purchases	13.1	25.2
Other livestock expenses	1.5	1.2
Equipment expenses	13.3	20.4
Building and fence repairs	3.3	1.6
Hired labor	20.4	5.1
Custom work	3.5	3.2
Real estate charges	7.0	11.5
Other current expenses	16.8	7.8
Total current farm expenses	100.0	100.0

cent on the average capital investment plus the value of unpaid labor. Some of the significant points brought out by this analysis were:

(a) There was a high degree of dependence on two enterprises for income; namely, seed potatoes and beef cattle.

(b) The potato receipts realized by the commercial producers ($9,746 per farm or 82.4 per cent of total current receipts) were likely higher than normal in 1965. A provincial shortage of seed potatoes in the 1964 crop year was followed by a substantial increase in the price obtained for seed potatoes in 1965. In addition, the Pemberton full-time farms had a potato yield of 13.6 tons per acre in 1965, which was somewhat higher than the long-term yield in the valley of about 10 tons per acre. This was the average long-term yield reported by the growers interviewed (see also *2*, p. 75). These factors are reflected in the large inventory increase in 1965.

(c) Only two part-time farmers were continuous producers of potatoes but all of them sold some beef cattle during the year, this being their main source of farm receipts.

(d) Only one full-time farmer reported non-farm family earnings and this income was earned by his wife. Conversely, all of the part-time operators had non-farm earnings ranging from about $1,000 in the year to more than $10,000. The average income from non-farm sources ($5,006) offset the part-time operators' negative farm labor income and provided them with a net postive balance of $968 per farm.

The main source of non-farm income was the forest industry. About one-half of the part-time farmers were engaged in felling, hauling and milling operations. Other sources included employment in building construction, the service industries and with the federal Department of Fisheries.

Land Use

The full-time farmers had an average of 114 acres under cultivation, about 74 per cent of their total acreage. In contrast, part-time operators averaged 62 acres (43 per cent of total land) prepared for crop production (Table 6). However, in terms of total land area, the commercial farms were not much larger than the average part-time operation. The dividing line between a part-time farm and a full-time farm became indistinct when both acreage and productive-man-work units were considered. Some of the part-time farms were probably moving toward a full-time operation.

TABLE 6.—AVERAGE LAND USE, 18 FARMS, PEMBERTON VALLEY, 1965[a]

	Full-time Farms	Part-time Farms
Number of farms	6	12
	acres per farm	
Wheat	0.3	—
Oats	11.8	1.6
Other grain	—	0.6
Grain hay	5.8	1.1
Legume hay	—	1.9
Mixed hay	34.7	24.8
Permanent pasture	48.1	30.4
Potatoes	11.3	1.0
Other crops	—	0.8
Total crop acres	112.0	62.2
Summerfallow	2.5	—
Breaking	—	0.8
Farmstead	1.8	1.4
Total improved acres	116.3	64.4
Grass (rough pasture)	—	5.6
Bush and timber	26.3	61.5
Waste	11.7	14.1
Total unimproved acres	38.0	81.2
Total land acres	154.3	145.6

[a]Includes land rented by part-time farmers. The full-time farmers owned all their land.

Permanent pasture, hay land, potatoes and oats accounted for almost all of the total cultivated land of 114 acres on the full-time farms. Part-time operators used about 58 acres, or 93 per cent of the cultivated acreage for pasture and hay. Hay crops consisted mainly of mixed grass and legumes. The full-time farmers had an average of 11 acres in seed potatoes compared with only one acre for part-time operators.

Values placed on land by part-time operators were a little higher than those given by the full-time farmers. On an average for all farms, improved land (inclusive of unimproved grassland) was valued at $295 per acre. Bush land and waste land together were valued at $94 per acre. The full-time farm operators placed an average value of almost $280 per acre on their improved land compared with $306 per acre by the part-time farmers. Unimproved grassland was valued by this latter group at $300 an acre. Other unimproved land was valued at $86 an acre by the full-time farmers and at $96 by the part-time farmers.

The yield of oats on the full-time farms was 1.3 tons and for mixed hay, the yield was approximately two tons per acre. As stated previously, these farmers had an average yield of 13.6 tons of seed potatoes per acre. Part-time operators had a yield of 9.5 tons of potatoes but this was obtained from a limited acreage. Hay yields of the part-time farmers were the same on the average as for the full-time farms.

Livestock

For a detailed statement of livestock numbers and animal units of livestock on farms in the Pemberton Valley the reader is referred to Table 7. A summary of the more important observations includes the following:

(a) Full-time farms had almost twice the number of animal units of the part-time operations.

(b) Beef cattle were the most important class of livestock. With two or three exceptions, the farmers followed a practice of selling yearling steers and calves. The exceptions were two full-time farmers and one part-time operator who sold some two-year-old steers.

(c) The average prices received for yearling steers were $144 and $126 by the full-time and part-time farmers, respectively. Most of these steers were sold on the Vancouver market as feeders.

(d) The full-time farmers produced nearly all of their grain and hay requirements whereas the part-time operators purchased more than one-half of the grain and about 5 per cent of the hay used. However, the part-time operators fed only one-half as much grain to their livestock (0.09 tons per animal unit) compared with the full-time farmers who fed 0.2 tons of grain per animal unit. The differences are reflected in the average values of the animals, as noted in (c). Each farm group fed 1.8 tons of hay per animal unit during the year.

TABLE 7.—AVERAGE NUMBERS OF LIVESTOCK AND ANIMAL UNITS, 18 FARMS, PEMBERTON VALLEY, 1965

	Full-time Farms		Part-time Farms	
	Livestock	Animal Units	Livestock	Animal Units
Number of farms	6	6	12	12
Dairy cows	1.9	2.6	0.8	1.0
Beef cows	12.2	12.2	7.0	7.0
Heifers—2 years	2.5	2.5	1.0	1.0
—1 year	5.0	3.3	2.1	1.4
Steers—2 years	1.4	1.4	0.2	0.2
—1 year	14.2	9.4	7.3	4.8
Calves	9.8	2.5	4.8	1.2
Bulls	0.6	0.6	0.6	0.6
Total cattle animal units	—	34.5	—	17.2
Horses	0.3	0.3	1.5	1.5
Sheep	—	—	0.4	[a]
Swine	0.2	[a]	—	—
Poultry	33.1	0.5	11.9	0.2
Total livestock animal units	—	35.3	—	18.9

[a] Less than 0.05.

Machinery and Equipment

There appeared to be no lack of power equipment on any farm. Either a car or truck, and frequently both, were reported on all farms. Each operator had at least one tractor, several had two and one full-time farmer had four tractors.

Table 8 gives the average annual cost of machinery and equipment. This includes all of the cash operating costs such as fuel, repairs, licences and insurance, also depreciation and interest on the average investment. Depreciation on power equipment, it should be noted, was almost the same at $293 and $295 per farm for full-time and part-time farms, respectively. The total annual machinery cost per improved acre was nearly $16 and $21 for the two groups, or about $5 higher for the part-time farmer.

TABLE 8.—AVERAGE ANNUAL COST OF MACHINERY AND EQUIPMENT, 18 FARMS, PEMBERTON VALLEY, 1965

	Full-time Farms	Part-time Farms
Number of farms	6	12
	dollars per farm	
Operating costs		
—Power equipment	842	473
—General equipment	30	1
Depreciation		
—Power equipment	293	295
—General equipment	326	294
Interest on investment at 5%	354	280
Total annual machinery and equipment cost	1,845	1,343

Labor

The sources and amount of labor are given in Table 9. Full-time farmers had 166 days and part-time farms 14 days of hired labor. Most of this extra help was required for the planting and harvesting, sorting and grading of seed potatoes. The average wages paid for these tasks was $1.00 an hour.

TABLE 9.—AVERAGE NUMBER OF DAYS OF LABOR, 18 FARMS, PEMBERTON VALLEY, 1965

	Full-time Farms	Part-time Farms
Number of farms	6	12
	days per farm	
Hired labor	166	14
Unpaid family labor	104	23
Operator's labor	291	128
Total labor days	561	165
	man-equivalents per farm	
Total labor	1.80	0.53

The man-equivalents were calculated on the assumption that 312 ten-hour days of labor were equal to the work of one man for one year. On the average, the full-time farms used an equivalent of 1.8 men and the part-time operators required 0.53 man-equivalents per farm for the year.

SUMMARY AND CONCLUSIONS

An analysis of the farm business records of 18 Pemberton Valley farmers, who were classified as full-time (commercial) or part-time farm operators, indicated that the most important characteristics of farming in this area could be summarized as follows:

(1) Total capital investment averaged about $70,500 for full-time farms and $48,000 for part-time operations. Full-time farmers had about 64 per cent of their total capital invested in real estate, 10 per cent in machinery and equipment, 9 per cent in livestock (mostly beef cattle) and almost 17 per cent in crop inventories. Part-time operators had a much larger share, almost 80 per cent, of their total capital in real estate and nearly 12 per cent in equipment. Inventories of livestock, however, accounted for less than 7 per cent and crops amounted to less than 2 per cent of the total investment for this group.

(2) Three part-time operators had long-term loans exceeding $14,000 each. These substantial liabilities were reflected in the average indebtedness for the group. Thus, the average capital liabilities were only $1,361 for full-time farmers whereas part-time operators owed $6,326 per farm at the end of the year.

(3) The sources of farm receipts indicated a high degree of dependence on two enterprises, namely beef cattle and seed potato production. All of the commercial farms were dual in this respect. Only two part-time operators were continuous potato producers but all of them had beef cattle.

(4) Average non-farm income for the part-time farmers was about $5,000. Activities associated with the logging industry were the main sources of income for this group. Other work included building construction, service industry positions and employment with the federal Department of Fisheries.

(5) Total land operated was 154 acres for full-time and 146 acres for part-time farmers. The former group had about twice the crop acres of the part-time operators.

(6) Yields per acre of crops were generally higher on the full-time farms than on the part-time farms.

(7) Averages derived from the 38 farms in the Pemberton Valley indicated that improved land and unimproved grassland was valued at $295 per acre. Similarly, bush land (including waste land) was worth $94 per acre.

(8) The full-time farmers had about double the livestock numbers and beef cattle animal units of the part-time farmers.

At the present time, the area's most favorable prospect for development would appear to be the eventual completion of the Squamish-Lillooet highway. A paved road now extends from Vancouver to Pemberton and holiday resorts connected with hunting, fishing, swimming and skiing are being constructed along the way. It is expected that facilities to accommodate tourist and other commercial activity will soon be required in the vicinity of Pemberton.

In so far as agriculture in the Pemberton Valley is concerned, it is likely that much of the unimproved land will be cleared and brought under cultivation. There will probably be an expansion in beef cattle as more land is made available for forage and grain. An increase in potato production could ensue as a result of the provision of rapid transit to expanding markets and a favorable price structure. Local requirements of milk and eggs are expected to increase and this could generate some expansion in local production of these products.

The number of farms in the area is not expected to expand beyond the present 38 operations. Most of the good agricultural land lies within the periphery of the present farm area and is all privately owned. However, about 56 per cent of the land operated by the part-time farmers is unimproved. It is likely that much of this land will be brought under cultivation within the next decade and, consequently, an increase in the number of full-time farmers and a decrease in the number of part-time operations might be expected.

NOTES AND REFERENCES

(*1*) *Regional Index of British Columbia*, Bureau of Economics and Statistics, B. C. Department of Industrial Development, Trade and Commerce, Victoria, Jan. 1966, p. 239.

(*2*) *The Quesnel—Lillooet Bulletin Area*, B. C. Department of Lands and Forests, Land Service, 1957, Victoria.

(*3*) The estimate of 2,500 acres of improved land was derived from data obtained in the study. It includes some 2,000 acres in the Pemberton Meadows and about 500 acres extending between Pemberton village and Mt. Currie.

OBSERVATIONS ON THE CATTLE FEEDING INDUSTRY OF THE NORTHWESTERN UNITED STATES AND WESTERN CANADA

B. K. Acton, Vern Miles and E. T. Osborn

A tour of cattle feeding operations, undertaken by the authors in June 1966, included: (a) the coastal area of British Columbia (Fraser Valley), Washington, and Oregon; (b) the intermountain regions of parts of Washington, Oregon, Idaho, and northern Utah; and (c) the prairies as typified by western Montana and southern Alberta. The purpose of the tour was to observe and note techniques in use by successful cattle feeders and to appraise the adaptability of such techniques to similar areas in Canada.

Although cattle feeding is a growing industry in most of the states and provinces visited, all areas ship out feeder stock. For example, it was reported that Oregon ships about 250,000 head annually, mostly feeder calves, to California. On the other hand, British Columbia, Washington, Oregon and Utah, as well as fattening cattle, find it necessary to bring in varying quantities of finished animals or dressed carcasses. Data showing the comparative cattle position of the different states and provinces visited are given in Table 1.

TABLE 1.—CATTLE STATISTICS OF FIVE SELECTED NORTHWESTERN STATES[a] AND TWO WESTERN PROVINCES[b]

	Cows and Heifers 2 Yrs. & Over Jan. 1/66[c]	Calves Born 1965	Cattle and Calves on Feed Jan. 1/66
		thousands	
Washington	618	538	131
Oregon	815	701	97
Idaho	712	634	174
Utah	400	356	81
Montana	1,458	1,327	100
Alberta[d]	1,240	n.a.	n.a.
British Columbia[d]	243	n.a.	n.a.

[a]U.S.D.A. Statistical Reporting Service, Boise, Idaho.
[b]D.B.S., Quarterly Bulletin of Agricultural Statistics, Jan. 1966.
[c]Includes both beef and dairy stock.
[d]December 1, 1965.
n.a.—not available.

REGIONS

Coastal

Beef cattle numbers on farms are relatively few. Those farmers incorporating beef cattle production into their farming programs either carry the stock to butcher grades or turn them over to commercial yards for final feeding. Commercial feeding in some instances is associated with special circumstances. There are cases where obsolete but available buildings provide cheap housing. Then there are occasional feeders who have family or business connections with livestock commission firms, who thus benefit because more than a casual interest is taken in the cattle purchase program. There are a few organizations where the feeding of livestock is complementary to the main business operated, for example, feed companies and packing plants. Farmers producing crops for nearby canneries sometimes participate in cattle feeding, not only to make use of by-products resulting from operations on the farm, but also of those created by the processing industry. Any large expansion in livestock feeding in the coastal region was discounted by persons interviewed because of limited local production of finishing feeds, high capital investment required in covered housing due to the wet climate and reticence to change from the traditional type of farming in an area, for example, dairy farming in the Fraser Valley.

Intermountain

The climate of the intermountain region is dry, relatively mild and not subject to severe winter winds. Feedyards, consequently, are of the open-corral type without provision for windbreaks. An exception to the foregoing statement is in eastern Idaho (Idaho Falls District), where the elevation of this open irrigated plain is about 5,000 feet above sea level. Winters and winter winds there are more severe than at lower altitudes, necessitating the use of protective wind breaks in the open-corral type feedyard. It is noteworthy that at this elevation crops such as sugar beets and potatoes are grown commercially.

Prairie

Severe temperatures and cold winds are not uncommon in the winter season in western Montana and southern Alberta. For protection against inclement weather, the open-corral feedlot has a board or baled straw windbreak along the exposed perimeter and often an open-front shelter facing towards the south.

CATTLE TYPES AND METHOD OF SUPPLY

Many commercial feedlot operators indicated they preferred feeding cross-bred cattle, particularly Angus-Hereford crosses. In southern Idaho, Holstein steers and heifers are popular and are fed almost exclusively by some operators. Because of a lack of local demand in California, large numbers of dairy calves were at one time sold in Idaho at a price slightly in excess of

the cost of truck transport from there. Lately, increasing competition from other outlets has resulted in a lower volume of such calves being available. Idaho, however, has a large dairy industry which partly satisfies the demand of feeders for dairy-type steers and heifers. Animals of this type are grown-out of cheap feed and grass, either by the dairyman or by an intermediate operator, until acquired by the feedlot operator at weights of up to 900 pounds.

Recent changes in United States grading standards have been a boon to operators feeding Holsteins. Animals of this breed are purchased at two to five cents a pound below prices of the traditional beef breeds of the same weight. At this stage Holsteins, being thinner but with larger frames, are able to make more rapid gains, reaching market weight faster. A few Holsteins are fed to U.S. Choice, a fair proportion to U.S. Good, and the balance to U.S. Standard grade.

Most commercial feedyard operators prefer feeders weighing over 600 pounds to be fed in a period varying from 60 to 120 days with gains averaging between two and three pounds per animal per day. Insofar as possible, they market finished stock and purchase replacements weekly throughout the year. This practice has reduced the risk associated with price fluctuations to the extent that only a casual interest is shown by these feeders in the recently instituted United States beef futures market.

Another method being followed by many feeders that reduces risk and working capital requirements, is that of operating totally or in part on a custom basis. Apparently, an increasing number of individuals are purchasing feeder cattle and paying to have the stock fattened. Producers of feeder cattle also consign their own cattle for custom finishing. A custom feedlot near Calgary, having many rancher shareholders, reports participation by a few British Columbia ranchers and that this volume of business is increasing. Custom feeding contracts for finishing cattle vary. The most frequent type of contract encountered involves a payment for the feed plus a yardage fee of so much per head per day, with the owner accepting losses due to death. Two custom feeding rates quoted (June 1966) were:

(1) Near Pendleton, Oregon—Feed costs of $53.00 per ton (*1*) and yardage costs of six to eight cents per head per day depending on the size of the consignment.

(2) Near Lethbridge, Alberta—Feed costs of $49.00 per ton (*1*) and yardage costs of eight to ten cents per head per day depending on the size of the consignment.

The capacity of feedlots visited varied from 200 to 20,000 head. To assure year-round supplies of heavier cattle for feeding, feedlot operators have entered into increasing numbers of contracts with farmer feeders. Calves are being wintered on contract at 20 cents per pound of gain. Sixteen to 18 cents per pound of gain was the usual price when the contract included a subsequent grazing season. Some feedlot operators own or rent hay-pasture land using it for grazing or providing hay for over-wintering. The annual turnover rate in commercial yards feeding yearling cattle averages 2.5 times. Those exceeding that rate include feedlots specializing in Holsteins and southern Alberta lots that have a high proportion of cattle of mixed breeds, some including dairy blood.

FEEDS

The basic ingredients of feed rations are much the same in all of the areas described. They are relatively low in roughage and high in rolled or steam-rolled wheat and barley. Price differentials determine the amount of wheat used, but United States feeders limit the amount to 40 per cent of the grain mix.

West of the Great Divide, high yielding soft winter wheat, produced on the extensive grain lands of Washington, Oregon, and Idaho, is fed, while in Montana and Alberta feed grades of hard wheats are used. Feeders in southwestern Idaho secure part of their feed barley requirements from eastern Idaho, while some eastern Idaho feeders bring in grain from Montana. Trucks having a load capacity of 800 to 1,000 bushels are used to move grains in all areas. Most finishing rations include components within the minimum and maximum proportions shown in Table 2.

TABLE 2.—MINIMUM AND MAXIMUM PROPORTIONS OF USUAL FEEDS FED

	Minimum	Maximum
	per cent of total ration	
Grain	52	78
Beet Pulp	10	20
Molasses	2	10
Roughage	4	25
Supplements	2	10

Throughout the intermountain region, pelleted sugar beet pulp from local sugar factories and molasses (in many instances cane molasses available at the west coast) form a part of nearly every ration. Pelleted beet pulp and molasses in both Alberta and Montana were observed in the mix only in areas near sugar factories.

The use of by-products in feeding appears to be declining. In the "potato state" of Idaho, advances in processing have resulted in fewer cull potatoes being available for feeding. Cultural practices associated with mechanization have had an effect on the use of by-products of other crops. Beet tops are not left on

the fields in this state for cattle to salvage but are plowed under. Now that peas are combined, vines formerly used for ensilage are scattered over the land.

In most areas alfalfa hay was priced at about $25 per ton delivered to the feedlot. Some feedlots have been paying a bonus of $1.00 per ton for each one per cent protein over 15 per cent while others bypass the need for bale shredding and grinding by contracting for the delivery of field-chopped hay.

SPECIAL TYPES OF FEEDING OPERATIONS

Automated Yard Feeding

One feeding yard in southern Idaho has four 20′ × 60′ glass-lined air-tight "Harvestore" silos plus grain storage and a centrally located, automated mixer-scale from which the ration is augered directly to covered auger feedbunks. Calves are initially fed high levels of 40 per cent moisture haylage, changing to an all-concentrate ration during the finishing period. Silos are filled four times each year and calves are turned over 1.5 times annually. Investment in the physical plant, after expansion to 2,000 head capacity, will be about $150,000.

A recent comprehensive report (*2*) compares the economic aspects of the haylage system with conventional practices. High labor efficiency can be shown for this type of operation, as one man is able to feed all the stock without moving from the central feed mixing mill. The "Harvestore" silos, each costing $14,000, are specific to this type of feeding operation but are not essential to automated feedlots.

Slotted Floor Barn Feeding

In the high snowfall region of eastern Idaho there is a feedlot operator who has an enclosed, controlled environment, slotted floor barn. The structure has a capacity of 200 head but limited feed storage. Investment in the structure is placed at $23,000 (*3*). With sufficient crowding, manure is trampled into a concrete pit from which it is pumped twice yearly. Eighteen square feet of floor space is provided for yearlings, 12 square feet for calves. The floors are of pine or fir timbers 6″ × 8″ × 10′, costing $3.30 each. These wooden floor slats must be turned over annually and replaced after two years. For this reason, the operator was considering replacing them with concrete slats, which would probably prove to be cheaper, considering depreciation, than wood or metal. A recent review of developments in slotted floor housing indicates additional benefits from using concrete (*4*).

When visited, half of the barn was being used for calves, although maximum turnover when finishing yearlings is estimated to be three times per year. The calves are fed only alfalfa hay until they reach a weight of 600 pounds. Then they are moved to the other section of the barn and placed directly on to an all-concentrate finishing ration. To date no ill effects have resulted from this feeding program. A conversion ratio of six pounds of finishing feed per pound of gain was claimed for a ration of equal parts of barley, wheat, and beet pulp pellets with the addition of 100 pounds of supplement per ton, containing additional protein, minerals and vitamins.

POSSIBLE FEEDLOT TRENDS

In the areas visited, farm feedlots appear to be declining and the commercial yards gaining in prominence. Farmers use surplus rough feed, grass and labor to grow-out or partly fatten stock in seasons of the year advantageous to them. Then, depending on finish and state of the market, the cattle may be sold directly to the butcher trade or to commercial feedlot operators. Farmers and ranchers sometimes participate in the commercial finishing operation by having their stock finished in custom feedlots.

In summary, observations on the trend of the cattle feeding industry recorded during the tour of the area are:

(1) Farm feeding of small lots of cattle will continue to have an important role in finished beef production;

(2) The introduction of new techniques associated with efficiency of feed mixes and labor saving equipment will lend itself to expansion of commercial operations; and

(3) Commercial feedlots will be operated as individual businesses, corporations or co-operatives and frequently will include custom feeding of cattle in their operating programs.

ACKNOWLEDGEMENTS

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NOTES AND REFERENCES

(*1*) All prices given in this paper are in United States or Canadian dollars, as the case may be.

(*2*) R. C. Suter, *The Courage to Change*, Interstate, 1965.

(*3*) John A. Henry, Univ. Idaho, Personal Communication. July 1966.

(*4*) J. E. Turnbull, *Can We Afford Controlled Environment for Feeding Beef*, Paper presented to the Beef Cattle Feeders Day, Ridgetown, Ontario, Aug. 1966.

SUGAR AND SUGAR BEET PRODUCTION IN CANADA

E. S. Eaton

Sugar beets are grown in Alberta, Manitoba, Ontario and Quebec and processed in factories located in these provinces. Beets are normally grown under a contract arranged between grower and company before the beets are planted.

Production of sugar beets in Canada totaled 1,094,000 tons in 1966 compared with 1,142,000 tons in 1965 and 1,298,000 tons in 1964. Sugar beet acreage fluctuates from year to year, but except for 1963 and 1964, has been declining since 1958. The acreage in 1966 was 82,271 compared with 97,800 in 1958. The number of farms harvesting sugar beets decreased from 4,590 in 1964 to 3,805 in 1965, the latest year for which data are available. All four provinces shared in the decline, with 141 producers dropping out in Quebec, 404 in Ontario and 125 in each of Manitoba and Alberta. The scale of operation per farm is largest in Manitoba where 650 farms (the smallest number per factory) produced 262,000 tons of beets in 1965 on an average of 33.7 acres a farm. At the other end of the scale, 1,073 Quebec farmers (the largest number per factory) produced 160,000 tons of beets in 1965 on an average of 8.6 acres a farm.

The factory at St. Hilaire, Quebec, is owned by the Quebec Government and operated under the presidency of the Minister of Agriculture and Colonization. The Chatham, Ontario factory is owned by Canada and Dominion Sugar Company. The factories at Fort Garry, Manitoba, and at Taber and Picture Butte, Alberta are owned by Canadian Sugar Factories Ltd. Except for the Quebec factory, beet sugar factories in Canada are controlled by corporations which also have cane sugar refineries in Canada.

Sugar Beet Marketing

The method of purchasing beets varies from province to province. In Quebec, producers are paid a stated price per ton of beets delivered, without regard for sugar content. This amounted to $15.00 a ton in 1965, and when combined with the federal deficiency payment of $6.38 per 250 pounds of sugar extracted, provided gross returns of $345 an acre. The returns were enhanced by a relatively high yield of 17.3 tons of beets an acre despite the unusually low sugar content of less than 200 pounds of sugar per ton. The 1955-64 average yield of beets in Quebec was about 13 tons an acre.

In other provinces, growers sign annually negotiated participating contracts with the beet sugar company. In Ontario, under the terms of their contracts, growers deliver beets to the factory and their crop is tested for percentage of sugar content. Thus a 16 per cent beet test implies a theoretical total sugar content of 320 pounds of sugar per ton, with 250 pounds of sugar expected to be obtained. The contract provides that the grower and company will share equally in the value of by-products sold, although a minimum return from by-products is guaranteed to growers by the company. An expected return from by-products is specified in the contract and half of this is included in the returns to growers for their share of the proceeds from sale of sugar. Sugar extraction which varies from the "expected" level is credited either plus or minus in equal shares to the company and to the grower. Under the contract, the company retains the first four cents a pound, pays the grower the next four cents a pound and divides any return above eight cents a pound in equal shares with the grower. At any value for sugar above zero the grower's share of total product returns is less than half. In 1965, the crop average beet sugar test was below the 10-year average and the extraction rate was above the "expected" level. Yield of beets per acre, at 19.71 tons, was much above the average of 15 tons an acre obtained over the ten years 1955-64. Growers' returns from the company averaged $7.54 a ton of beets delivered. The federal deficiency payment, which was the same in all provinces, brought this to $13.70 a ton delivered or a gross return of $272 an acre harvested of which about $149 came from the company.

In Manitoba and Alberta, contracts are somewhat simpler than those which have developed in Ontario. Growers receive a straight percentage of the value of by-products. The extracted sugar is pro-rated among the growers in proportion to their beet tonnages delivered. Growers are paid a percentage of the net value of the refined sugar obtained. This percentage varies within narrow limits either side of 60 per cent in proportion to variations in the net selling value of refined sugar. In 1965, Alberta growers received $11.29 from the company per ton of beets delivered with both yield per acre and sugar recovery below average. Total returns, including federal deficiency payment, amounted to $242 an acre. Manitoba growers, with yields close to their average of 10 tons an acre and average sugar extraction, obtained $10.72 per ton of beets from the company and a total of $169 an acre.

Because of difference in growing conditions, average sugar per ton of beets normally increases by provinces from East to West, ranging from 230 pounds in Quebec to 260 pounds in Alberta. The 1955-64 average was 252.3 pounds a ton for the four provinces. However, the yield of beets per acre is highest in Ontario and lowest in Manitoba at 15 and 10 tons

respectively. Yields in Quebec at 13 tons are only slightly below the 13.4 tons obtained in Alberta over the 10-year period. Average sugar extracted is highest in Ontario at 3,680 pounds an acre and lowest in Manitoba at 2,550 pounds an acre on a 10-year basis. Weather and seasonal conditions play an extremely important part in determining the actual sugar production in any year, as indicated by the 1959 production in Ontario of just over 2,000 pounds of sugar an acre, compared with 1963 production of over 4,350 pounds of sugar an acre. High prices for the 1963 crop pushed Ontario grower returns to $338 an acre, a record level.

Canadian Sugar Market

In general, the beet sugar produced in Alberta and Manitoba is about equal to the local consumption in the three Prairie provinces. The distance from sources of cane sugar and the competitive price of beet sugar result in a "remote interior" market which is about self-sufficient in beet sugar. Elsewhere in Canada, consumers have a choice between beet and cane sugar. However, in comparison with total requirements, this choice is largely theoretical because beet sugar represents a shrinking three per cent of total usage. Indeed, although population and consumption have risen, beet sugar production has declined, so that cane sugar sources have supplied all of the growth in the market and have made up for the reduction in beet sugar output. For the country as a whole, beet sugar supplies between 15 and 20 per cent of total use, and in that part of the country which is geographically accessible to cane sugar, beets supply about three per cent of consumption.

World Sugar Trade

The world production of sugar in 1965 amounted to about 64.6 million metric tons, of which about 59.6 million metric tons were consumed in the same year. This left about five million tons to be added to total stocks to bring them to an estimated level of 29 million metric tons. Estimated total consumption rose over 1964 levels by about four million tons while production increased by over five million tons. The 1965 consumption was slightly above the 1964 production. Had production remained constant it would have been about in balance with consumption. It appears that some of the increase in production results from the coming into operation of expansion triggered by relatively high prices of 1963 and 1964, although about 1.5 million tons of the increase was provided by the recovery of Cuban output from the lower than usual production of 1964.

Of total world consumption, over two-thirds takes place in the countries where the sugar is produced, leaving less than 20 million metric tons for international trade. Most of the international trade in sugar takes place under special trade agreements, with Japan, Canada and some of the developing countries providing access to their markets on a comparatively unrestricted basis. The three largest importers of sugar under special arrangements in 1965 were the United States, U.S.S.R. and the United Kingdom, in that order. Together, their imports accounted for 42.5 per cent of all imports or a total of 8.2 million metric tons. Japan, the largest importer on the free market, imported 1.4 million metric tons, and Canada, the second largest, took 0.8 million metric tons. Canadian imports represented about four per cent of total world imports.

Canadian Trade in Sugar

Of 838,000 metric tons imported in 1965, the last year for which complete data are available, 635,000 came from Commonwealth countries. Practically all imports were as raw sugar cane to supply the Canadian cane sugar refinery industry. Australia was the largest Commonwealth supplier with 134,000 metric tons. Among non-Commonwealth suppliers in 1965, only South Africa and Cuba supplied significant quantities, with 111,000 and 66,000 metric tons respectively.

TABLE 1.—PRODUCTION OF SUGAR IN CANADA, 1961–1966

	Production			Per Cent of Total Production	
	Beet Sugar	Cane Sugar	Total Sugar	Beet Sugar	Cane Sugar
	'000 lbs.			per cent	
1961	257,036	1,479,342	1,736,378	14.8	85.2
1962	280,791	1,598,385	1,879,176	14.9	85.1
1963	306,587	1,604,238	1,910,825	16.0	84.0
1964	317,738	1,505,604	1,823,342	17.4	82.6
1965	277,196	1,665,720	1,942,916	14.3	85.7
1966	294,101	1,776,234	2,070,335	14.2	85.8

Source: *Sugar Situation*, D.B.S.

In terms of relative importance of Canada, as a market, to the countries from which Canada imported sugar in 1965, Guyana led with 32 per cent of exports going to Canada. Although Australia was the largest source of Canadian imports, the Canadian trade represented only 11 per cent of Australian exports.

The reliance on cane sugar for a large and growing share of Canadian sugar requirements and its relatively unfettered access to the Canadian market has led to wide swings in prices paid for sugar in Canada. Prices have ranged in the past three years from a record high of 18.5 cents to below 2 cents a pound of raw sugar. These wide fluctuations have come about since the International Sugar Agreement became inoperative, and it is generally accepted that present world prices are too low.

Canadian Tariff on Sugar

Raw sugar from British Preference countries is subject to a duty of 28.712 cents per 100 pounds and from Most Favoured Nation countries the duty is $1.00 per 100 pounds higher. Refined sugar pays $1.09 per 100 pounds and $1.89 from such countries respectively.

Since it takes 107 pounds of raw sugar to produce 100 pounds of refined sugar, the equivalent of the raw sugar duty, when expressed on a refined basis, would be 30.7 cents per 100 pounds from Commonwealth countries and $1.377 from other countries.

It is estimated that in 1965, the cost to Canadian consumers on that portion of their sugar consumption obtained from cane sugar, arising from tariff protection, amounted to about $20 million.

The International Sugar Agreement

Canada joined the International Sugar Agreement in March 1954 and has been a member since that time. In 1958, the Agreement was extended and amended to enlarge basic quotas and to make quota adjustments easier. Under this Agreement, there is provision to regulate exports by means of quotas related to the basic export tonnages laid down in the Agreement. There is provision for adjusting quotas in effect at various price levels between the equivalent of 3.15 cents and 4.00 cents f.a.s. Cuban port. The price level is measured by adjustment back from world prices prevailing at London and New York for raw sugar. Quotas may also be adjusted on the redistribution of surrendered quotas or parts of quotas. There is provision for limitation of maximum stocks and on production in exporting countries and for limitation of imports from non-participating countries. The operative provisions of the Agreement are designed

TABLE 2.—SOURCES OF RAW CANE SUGAR IMPORTED INTO CANADA, 1965

Countries of Origin	Quantity	Per Cent of Total	Per Cent of Total Exports of Source Country	Per Cent of Total Production of Source Country
	'000 metric tons			
COMMONWEALTH COUNTRIES				
Australia	134.0	16.0	11.0	6.5
Barbados	18.4	2.2	10.0	9.2
British Honduras	5.1	0.6	16.5	14.2
Fiji	74.1	8.9	24.2	23.4
Guyana	91.7	10.9	32.2	29.2
India	52.8	6.3	18.9	1.5
Jamaica	80.7	9.6	18.7	16.2
Leeward & Windward Islands	2.9	0.3	6.2	5.4
Mauritius	94.8	11.3	16.4	14.3
S. Rhodesia and Malawi	29.1	3.5	17.0	12.6
Trinidad and Tobago	50.6	6.0	24.2	19.9
United Kingdom	0.5	0.1	0.2	0.1
TOTAL COMMONWEALTH	634.7	75.7		
FOREIGN COUNTRIES				
Brazil	5.9	0.7	0.7	0.1
Colombia	5.3	0.6	5.2	1.1
Cuba	65.6	7.9	1.2	1.1
Dominican Republic	6.1	0.7	1.2	1.0
French West Indies	3.5	0.4		
South Africa	110.6	13.2	26.1	10.9
U.S.A.	6.1	0.8	0.3	0.1
Other Countries	0.2	—		
TOTAL FOREIGN	203.3	24.3		
TOTAL ALL COUNTRIES	838.0	100.0		

Source: *Statistical Bulletin*, International Sugar Council, December, 1966.

to ensure that appropriate supplies are available to the market covered by the Agreement throughout the quota year.

In addition, the Agreement provides for the International Sugar Council to consider and make recommendations for special arrangements between importers and exporters for sugar trade between members when the price is above or below the Agreement price range. There is also provision for measures designed to assist in appropriate extension of sugar consumption for human, industrial and other users. The 1958 Agreement was for a period of five years, with a review at the end of three years. The 1961 review did not reach agreement on the level of basic export tonnage and limitations on export for 1962. As a result, the operative provisions of the Agreement ceased to function. However, the administrative provisions have been continued by successive Protocols and currently extend to the end of 1968. In 1965, a United Nations Sugar Conference had its first session at Geneva to begin work towards a new Agreement. That session adjourned, to re-convene when a successful outcome of discussions appeared likely.

The continued operation of the administrative provisions provides a vehicle for international study of the world sugar complex and for the collection and publication of data on production, trade, stocks, consumption and related matters. This information is essential for following trends and developments in sugar. The exchange of information is valuable, not only to those agencies and firms directly involved in the sugar trade but is also basic to the consideration of practical means of working out an improved sugar agreement.

Canada has been a supporter of international commodity agreements and is taking an active part in attempts to find a workable new sugar agreement. It is considered that desirable features in an agreement would include reasonable price levels for producers and adequate assurance of supplies to consumers. Since sugar is a food which historically has usually been produced in excess of consumption levels, measures could also be included which would increase consumption. Many of the developing countries are in climatic areas which permit sugar cane production and profitable expanding markets are especially important to them. The opinion has been expressed, especially since the very high prices experienced in 1963 and 1964, that sugar prices could be substantially higher than present levels without adversely affecting consumption in the more developed countries. However, high prices could restrict consumption in low income countries which represent the major concentrations of population which could use more sugar. Thus, there is some practical limit on sugar prices beyond which price increases would not be in the long term interest of sugar exporting countries. The determination of appropriate price levels, allocation of supplies and markets and encouragement of consumption, together with effective and acceptable means of achieving them, are among the problems to be resolved in a new agreement.

World Price

The term "world price" is used to refer to the price of that portion of world production—usually about ten per cent—which is traded outside of the controlled supply system of some of the large sugar consuming countries, e.g., Britain, United States, and the Soviet Union. Many of the large sugar users have some government program or special arrangement intended to provide their consumers with assured supplies. In some countries, however, high tariffs, trade barriers, cartels or heavy government taxes keep the price of sugar too high for any large growth in sugar consumption to take place. In other countries, sugar is already consumed at such high levels that reduced prices have little effect on consumption. In effect, the world price is the level at which sugar is sold between buyers who are willing and able but not compelled to buy and sellers who have sugar which they are free to sell. Most of the large sugar producing countries sell a large share of their production at prices which have been guaranteed at above average levels. These arrangements have generally been worked out at relatively high prices in exchange for some other concession or as a means of protecting a domestic industry.

Sugar Beet Price Support in Canada

The Canadian sugar beet industry first received direct government assistance during the war years. In 1943, the Ontario Government instituted a subsidy of 55 cents a ton of beets. This was increased by $1.00 a ton in 1944 and 1945. The Federal Government paid a subsidy of 60 3/4 cents per 100 pounds of sugar in 1946 and $1.25 per 100 pounds in 1947. These latter measures were instituted under the authority of the Wartime Prices and Trade Board. The Quebec Government has operated a beet processing plant at St. Hilaire since 1944. This plant normally operates at a deficit made up by the provincial government.

Federal support was introduced in 1957 under the Agricultural Prices Support Act at a price of $13.00 a ton of beets but no payments were required that year. In 1958, the support program came under the Agricultural Stabilization Act and was put on a sugar basis. In 1958 and 1959, support prices were established at 93 per cent of the previous 10-year averages of growers' returns per pound of sugar f.o.b. factory. Payments under these programs cost the Government $2.66 million in 1958 and $2.72 million in 1959.

The support program was placed on a national basis in 1960 at a level of $14.23 a ton of beets yielding 270 pounds of sugar per ton. This was 100 per cent of the previous 10-year average return to Canadian producers and cost the Government $1.67 million.

Further study showed that sugar yield per ton in Canada averaged closer to 250 pounds and this level of sugar extraction was adopted as a "standard ton". The 1961 support level was established at $13.18 a ton, equivalent to $14.23 on 270 pounds of sugar. Movement of the 10-year average or "base" price resulted in a percentage level of 102 per cent. Because of special problems that year in Ontario, that province agreed to pay 50 cents a ton toward any deficiency payment required and the company agreed to raise its guaranteed price for a ton of beets yielding 250 pounds of sugar, by 50 cents a ton over their original offer. If these two adjustments failed to return $13.00 a ton to Ontario growers, the Agricultural Stabilization Board was to make up the difference. This program resulted in a federal payment of $2.96 a standard ton in Ontario and $1.56 in the other provinces, for a total expenditure of $1.98 million.

In 1962, the stabilization program reverted to a national basis with any payment which might be indicated, to be made at the same rate per standard ton in all provinces. Because the selling value of beet sugar was determined in market competition with sugar produced from cane, and because the cost of raw sugar was largely a determining factor in refined cane sugar prices, the support price was tied to the measurement of changes in the import value of raw cane sugar although the support price was still expressed per standard ton. This served to isolate the support program from prices negotiated by growers with beet processing companies yet would provide compensation for reductions in returns brought about solely from the decline of general sugar prices. Growers would thus retain any benefit they could obtain by vigorous bargaining with the companies, without affecting any support payment which might be indicated. The prescribed level became 106 per cent of the base price and was equivalent to a support level of $13.72 a standard ton. With the rise in prices which came during the marketing of the 1962 crop, no deficiency payment was required under the program. In equating import values of raw sugar to the grower returns for sugar beets, the historical mathematical relationship between them was retained at the same proportion as had been experienced in the base 10 years.

In 1963, the same method of support and the same level was maintained. However, the movement of the 10-year average raised the percentage level of support to 109 per cent and the ratio between import values and grower returns also moved. Very high prices during the year obviated the need for any payment under the program.

In the face of high and volatile prices, some of the cane refiners in Canada changed their method of payment for raw sugar. Settlement was no longer on the basis of f.o.b. values shown on import invoices. Instead, the raw sugar was imported in bond and priced for payment at the time it was removed from bond for melting. Accordingly, import values ceased to reflect the actual cost of raw cane sugar. At the request of the growers, the Agricultural Stabilization Board shifted the 1964 measurement of world prices to the use of the London Daily Price, as reported monthly by the International Sugar Council. This quotation was converted to Canadian cents per pound and weighted by domestic sales of beet sugar. The level at which growers' returns was supported in 1964 continued unchanged at $13.72 a standard ton and the relationship between growers' returns and London Daily Price was incorporated in the program. Prices declined during the year in which the 1964 crop was marketed and a support payment of $3.15 a standard ton was made at a cost to the Government of $4.59 million.

For the 1965 crop, the method of support was again the same as in 1964, but the level became $14.35 a standard ton, with the price measurement still tied to the published London Daily Price. World sugar prices continued to decline and the basis of price reporting at London was altered at the beginning of 1966 from a bagged and unloaded quotation to a bulk basis with unloading charges for buyers' account. The result was a decline of 12 cents per 100 pounds of sugar in the price reported, from the corresponding price reported on the previous basis. This new basis applied during eight months of the support year and served to result in some artificial increase in the deficiency payment indicated. Of greater impact on grower returns was the discovery that the relationship between London Daily Price and the returns to sugar beet growers was altered at very low sugar prices. It was implicit in the support program that this relationship would be fairly stable over the expected range of world prices. However, the unexpectedly low prices combined with an altered relationship to growers' returns and further enhanced the effective level of support. Accordingly, the deficiency payment amounted to $6.38 a standard ton and the total Government cost reached $6.84 million. The combined returns to growers from processors and support payment averaged $17.16 a standard ton instead of the $14.35 announced in the support program.

When the 1966 support level was announced at a continued $14.35 a standard ton mid-way through the

1965 support year, it was already evident that the earlier program would result in a payment larger than contemplated. The extent of the discrepancy was not yet apparent, but it was clear that the method of support would have to be reviewed if the support level intended was to be achieved. Accordingly, the announcement of the 1966 method of support was deferred until further studies could be made. The method, when announced, followed the pattern which had been traditional in contracts between growers and beet processing companies. A table was provided which showed the payment which was authorized for each level of London Daily Price. Over the years, there had been some improvement in the average contract obtained by the growers from the companies and this benefit was preserved to the growers in calculating the table. The final form of the program was determined after consultation with growers and processors. The 1966 support period runs to August 31, 1967.

On February 21, 1967, the Minister of Agriculture announced support for the 1967 crop at $15.50 a standard ton on a national basis.

POLICY AND PROGRAM DEVELOPMENTS

Sugar Beet Price Support—The Agricultural Stabilization Board has been authorized to support the price of sugar beets for the 1967 crop by a deficiency payment program at a national support level of $15.50 a standard ton. The overall program will include a stabilizing feature designed to standardize returns in Ontario, which in the past have been adversely affected by low world prices for sugar. (February 21, 1967)

Barberry Eradication—The program to eradicate common barberry in Ontario and Quebec, introduced in 1964 and originally scheduled to conclude by early 1967, is to be continued throughout 1967 and in 1968. Barberry has been found to be more widespread and in heavier concentrations than anticipated in 1964, and extension of the program will permit a check of regrowth to be made.

Under the program, the federal government pays half the cost of eradication work in the two provinces. (February 10, 1967)

Egg Price Stabilization Order (1966-67)—This Order authorizes the Agricultural Stabilization Board to pay a support price of 34c a dozen for Canada Grade A Large eggs delivered by producers; to make payment only to producers who deliver at least 1,000 dozen Canada Grade A Extra Large, Large and Medium eggs in the 12-month period October 1, 1966 to September 30, 1967, and to limit payment at the rate of 34c a dozen to a maximum of 10,000 dozen of such eggs marketed during that period. The price of 34c a dozen is approximately 98 per cent of the national base price of 34.69c a dozen to producers established by the Board for Canada Grade A Large eggs. (February 2, 1967)

Oats and Barley Final Payments, 1965-66—Final payments to producers by the Canadian Wheat Board for oats and barley amounted to $12,313,571 and $29,230,543 respectively. The average final payment for oats was a record 24.8c a bushel, while the average final barley payment was 32.8c a bushel.

In 1965-66, producers delivered 49,626,630 bushels of oats and 88,920,104 bushels of barley to the Board. (January 31, 1967)

Wheat Final Payment, 1965-66—The amount of the final payment to producers for wheat delivered to the Canadian Wheat Board in the 1965-66 crop year was $270,028,577. This was $70 million higher than the final payment for the previous year, and was exceeded only slightly by the record payment of $272 million made on the 1963-64 pool account, when a larger volume of wheat was marketed. In the 1965-66 crop year, producers delivered a total of 559,790,073 bushels of wheat to the Board.

The overall average final payment for wheat was 48.237c a bushel, the largest in the history of the Board. Farmers will receive a total of $1.99699 a bushel—basis in store the Lakehead or Vancouver—for No. 1 Northern wheat. (January 13, 1967)

Ontario Flue-Cured Tobacco Growers' Marketing Order—The Ontario Flue-Cured Tobacco Growers' Marketing Board and the Farm Products Marketing Board of Ontario are authorized to regulate the marketing of tobacco in interprovincial and export trade and for such purpose may, with respect to persons and property situated in the Province of Ontario, exercise all or any powers like those already held for the marketing of tobacco within Ontario. (January 12, 1967)

Feed Grain Assistance—An amendment to the Regulations provides a revised transportation assistance schedule for shipments of feed grain to Ontario, Quebec, New Brunswick and Nova Scotia. (January 11, 1967)

Butter Imports—The Canadian Dairy Commission purchased 2.24 million pounds of butter from the New Zealand Dairy Board for February 1967 delivery to Vancouver, to meet deficiencies in winter butter supplies in western Canada. Stocks of butter in storage in Canada are the lowest since 1951 and 1952. The

scheduled importation from New Zealand represents less than one per cent of Canada's annual requirements. (January 9, 1967)

Ontario Tender Fruit Growers' Marketing-for-Processing Order—The Ontario Tender Fruit Growers' Marketing Board and the Farm Products Marketing Board of Ontario are authorized to regulate the marketing of tender fruit in interprovincial and export trade, and for such purpose may, with respect to persons and property situated in the Province of Ontario, exercise all or any powers like those already held for the marketing of tender fruit within Ontario. The Order is effective to December 31, 1967. (January 4, 1967)

Wood Producers' Syndicate of Quebec-South Marketing Order—The Syndicate has been given authority to to regulate the marketing, in interprovincial and export trade, of resinous and leafy woods produced in the Quebec-South region, and for such purposes may, with respect to persons and property situated within the Province of Quebec, exercise powers like those already held for the marketing of such woods within Quebec. (January 4, 1967)

Alberta Broiler Growers' Marketing Order—The Alberta Broiler Growers' Marketing Board has been authorized to regulate the marketing of broilers outside the Province and for such purposes may, with respect to persons and property situated in Alberta, exercise powers similar to those already held by the Board for marketing broilers within the Province. (December 22, 1966)

Ontario Onion Producers' Marketing Order—An amendment to this order alters the levies or charges which the producers' marketing board may make on persons engaged in the production and marketing of onions, to a rate not exceeding 25 cents for each 50 lb. bag of onions marketed. (December 15, 1966)

Ontario Drainage Grants—The grant to municipalities under the Ontario Drainage Act has been increased from 33-1/3 per cent to 66-2/3 per cent. Provision will be made through the ARDA Directorate to ensure that the program is restricted to lands of high agricultural capability. Provincial policies already provide for a two-thirds grant for drainage outlets built under the Drainage Act in Northern Ontario and in the 11 counties of Eastern Ontario, and the purpose of the latest project is to make the policy available in all parts of Ontario.

The increased grants are retroactive to April 1, 1966, and drainage assistance will continue until 1970 with the cost being equally shared by the federal, provincial and municipal governments. (December 14, 1966)

Sugar Beet Interim Payment—The Agricultural Stabilization Board was authorized to make an interim payment of $3 a normal ton of sugar beets of the 1966 crop in order to help growers meet their seasonal obligations. (December 13, 1966)

Veterans Land Regulations—An amendment to the Regulations defines an "economic farm unit" as a farm enterprise that will, in the opinion of the Director, The Veterans' Land Act, produce sufficient income after operating expenses are paid to (i) provide a reasonable livelihood for a veteran and those members of his family living with him, and (ii) repay the indebtedness of the veteran to the Director in accordance with the terms of the contract between them. (November 17, 1966)

PUBLICATIONS

ECONOMICS BRANCH PUBLICATIONS

Available from Economics Branch, Regina, Saskatchewan

Farm Organization and Practices, Costs and Returns, Elgaard, K., Edmonton, 1966. pp. 103.

This is the report of a study of 75 grain and grain-livestock enterprises conducted in the Thin Black Soil Zone of central Alberta in 1965. For study purposes, the Zone was divided into three areas based on soil arability ratings and topography.

The Study of Farming and Economics and Soil Adjustment Problems, R.M. of Foam Lake No. 276, Saskatchewan, 1961-63, Zeman, J., Regina, December 1966. pp. 52.

A study of land occupancy, farm practices, capital and income, farm characteristics and development possibilities of grain and grain-livestock farms in this part of the Parkland area of Saskatchewan.

Changes in Farm Organization, Heavy Productivity Soils, Dark Brown Soil Zone, Saskatchewan, 1965, Ragush, M., Regina, December 1966. pp. 91.

A study of grain farms on heavy textured soils in the Dark Brown Soil Zone of West Central Saskatchewan.

UNITED NATIONS PUBLICATIONS

Available in Canada from the Queen's Printer, Ottawa

World Economic Survey, 1966, Department of Economic and Social Affairs, United Nations Secretariat. United Nations Publication Sales No. 66.11.C.3 pp. xiv+ 196. Price: U.S. $4.50.

This is the eighteenth in a series of comprehensive reviews of world economic conditions published by the United Nations. The report consists of two parts: (1) the financing of economic development and (2) the world economy in 1965 and early 1966.

OTHER PUBLICATIONS

Not available from Economics Branch

1965 Farm Business Reports, Jones A.R. and L. Bauer, Agricultural Economics Division, Alberta Department of Agriculture, 1966.

(i) **Dark Brown Soils, East Central Alberta.** Pub. No. 819-50-27. pp. 34. An analysis of the 1965 accounts of 27 farms.

(ii) **Thin Black Soils, East Central Alberta.** Pub. No. 819-50-26. pp. 34. An analysis of the 1965 accounts of 25 farms.

(iii) **Black Soils, Central Alberta.** Pub. No. 819-50-24. pp. 34. An analysis of the 1965 accounts of 149 farms.

(iv) **Dark Brown Soils, South Western Alberta.** Pub. 819-50-28. pp. 34. An analysis of the 1965 accounts of 30 farms.

(v) **Thin Black Soils, South West Alberta.** Pub. 819-50-25. pp. 34. An analysis of the 1965 accounts of 42 farms.

(vi) **Peace River District, Alberta.** Pub. 819-50-29. pp. 34. An analysis of the 1965 accounts of 54 farms.

(vii) **Irrigated Soils, Southern Alberta.** Pub. 819-50-30. pp. 34. An analysis of the 1965 accounts of 29 farms.

Planning Father-Son Agreements, France, T.H., Western Ontario Agricultural School, Ontario Department of Agriculture and Food. Pub. No. 56, pp. 16.

A review of the various types of agreements which may be entered into between father and son for the purpose of operating or transfering the ownership of the family farm, and of the implications of such agreements for the parties concerned.

Farm Income Sharing Arrangements, France T.H., Western Ontario Agricultural School, Ontario Department of Agriculture and Food. Pub. No. 58, pp. 12.

This publication reviews and illustrates several types of arrangements by which farm income may be shared, with the aim of improving farm management and profitability.

The Business of Farming and Ranching—1965, Prankratz J. and P.H. Chau, Farm Economics Division, B.C. Department of Agriculture, September 1966. pp. 123.

A summary and analysis of results from 240 farm accounts for 1965 provided by British Columbia dairy, beef and grain farmers.

National Rural Manpower, Beijer, G., Organization for Economic Co-operation and Development. This report was summarized and produced by the Information and Technical Services Division, Department of Forestry and Rural Development, Canada. July 1966. pp. 11.

This report on labor mobility is a summary of practical measures and policies to facilitate the adjustment of rural people to industrial employment and urban living.

A Guide to Community Pastures for Eastern Canada, Burkell, S.R., Economics Branch, Canada Department of Agriculture. Rural Development Branch, Department of Forestry and Rural Development, 1966. pp. iv+ 26.

An explanation of the essential functions and the organization required to establish community pastures in Eastern Canada, particularly under the ARDA program.

An Analysis of the Structure of Irrigation Administrations in Southern Alberta, Parbly, G.B., Agricultural Economics Division, Alberta Department of Agriculture. Alberta Irrigation Studies—1966, Vol. 1. pp. viii+78+iii.

The report of a study undertaken in 1965 for the purpose of examining existing irrigation administrative structures, analyzing related problems, and of recommending necessary steps to facilitate improvement in irrigation district administration.

STATISTICAL APPENDIX

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1966-67

Commodity, grade and market	1966	1966				1967	
	Average	Feb.	Oct.	Nov.	Dec.	Jan.	Feb.
				dollars per cwt.			
CATTLE (weighted average prices at public stockyards)							
Good slaughter steers							
Toronto	25.85	27.07	26.50	26.50	27.25	27.50	27.50
Winnipeg	25.15	26.10	24.98	25.07	26.21	25.78	26.06
Calgary	24.50	25.52	24.22	24.47	25.40	25.61	25.23
Good feeder steers							
Toronto	27.70	27.56	28.00	28.00	28.00	28.00	28.00
Winnipeg	25.55	25.99	24.33	24.62	25.48	26.00	26.14
Calgary	24.90	25.48	25.00	24.88	24.91	25.54	25.39
Good and choice veal calves							
Toronto	34.95	32.25	34.50	34.50	38.91	38.40	37.28
Winnipeg	34.35	35.55	34.41	34.84	37.79	41.10	40.80
Edmonton	28.20	27.74	25.04	23.87	26.50	29.88	33.79
HOGS (weighted average prices at public stockyards, Grade A dressed)							
Toronto	35.90	43.19	33.94	33.79	33.00	32.31	33.39
Winnipeg	34.45	42.28	32.12	30.52	30.13	29.70	30.37
Calgary	33.50	39.94	32.69	30.11	29.37	28.05	28.80
LAMBS (weighted average prices at public stockyards, Good lambs)							
Toronto	26.50	30.99	22.64	24.83	26.14	25.90	25.84
Winnipeg	21.85	25.96	20.17	20.57	21.00	21.23	21.50
Calgary	22.00	25.52	18.61	19.17	18.71	19.60	19.61
FLUID MILK (f.o.b. factory)							
Halifax	6.00	5.71	6.10	6.10	6.10	6.10	6.10
Montreal	5.41	5.35	5.55	5.55	5.55	5.55	6.00
Toronto	5.52	5.29	5.75	5.75	5.75	5.75	5.75
Winnipeg	5.34	5.20	5.48	5.48	5.48	5.48	5.48
Vancouver	6.59	6.46	6.72	6.72	6.74	6.75	6.74
MANUFACTURING MILK (average farm value)[a]							
Nova Scotia	2.87	2.60	3.01	3.10	3.05		—
New Brunswick	3.16	3.02	3.22	3.27	3.28		—
Quebec[b]	3.05	3.28	3.08	3.12	3.15		—
Ontario[c]	3.16	3.22	3.25	3.38	3.27		—
British Columbia	3.23	3.12	3.28	3.28	3.28		—
				cents per lb.			
BUTTERFAT (for butter, average farm value)[a]							
Prince Edward Island	67.0	73.0	67.0	66.0	67.0	—	—
Quebec[b]	84.0	90.8	81.5	80.8	81.5	—	—
Ontario[c]	74.3	75.0	77.5	77.5	77.4	—	—
Saskatchewan	62.2	67.7	61.3	64.0	62.9	—	—
British Columbia	78.8	70.8	82.8	82.8	82.8	—	—
				cents per doz.			
EGGS (average paying prices at registered grading stations, Grade A Large)							
Halifax	44.6	39.0	55.3	54.2	51.2	38.8	36.2
St. Anselme	45.5	36.9	54.8	55.0	53.1	41.2	33.2
London	45.4	37.4	53.8	53.7	52.2	40.3	33.9
Winnipeg	38.1	32.5	45.1	44.4	39.6	29.9	26.0
Vancouver	39.9	40.0	41.1	40.2	43.6	35.6	31.5
				cents per lb. live			
BROILERS (average prices paid to growers, No. 1 grade chicken under 5 lbs.)							
Toronto	20.6	21.1	20.5	20.5	20.0	19.1	19.5
Edmonton	21.8	21.6	21.5	20.5	20.5	20.6	21.4
TURKEYS (average prices paid to growers, No. 1 grade, 12-20 lbs.)							
London	25.4	27.1	25.5	26.5	27.2	24.0	23.8
Edmonton	25.8	26.5	25.5	26.0	26.0	26.0	26.0

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1966-67 (CONTINUED)

Commodity, grade and market	1965-66	1966				1967	
	Crop Year Average	Feb.	Oct.	Nov.	Dec.	Jan.	Feb.
	dollars per cwt.						
POTATOES (Can. No. 1 Table, average prices to growers)							
Prince Edward Island	2.85	2.32	1.39	1.25	1.15	1.33	1.10
New Brunswick	2.28	1.98	1.19	1.27	1.10	1.15	0.95
Southwestern Ontario	2.83	2.63	1.87	1.88	1.93	1.90	1.58
	cents & eighths per bu.						
EASTERN GRAINS							
Oats (Ont. No. 2 White, f.o.b. shipping points)	78	78	78	79/4	80	83	85
Barley (Ont. Good Malting, f.o.b. shipping points)	145	145	145	145	145	145	145
Corn (Ont. No. 2 Yellow, f.o.b. Chatham, 15% moisture, in carlots)	144/6	142	146/2	147/6	153/2	153/6	154
Soybeans (Ont. No. 2, f.o.b. Chatham)	300/7	302/7	310/5	306/1	302/7	296/5	294/7
WESTERN GRAINS (basis in store Fort William/Port Arthur, less freight and elevator handling charges)							
Red Spring Wheat (No. 2 Nor.)							
Winnipeg	183/6	185/3	195/2	196/1	196/7	196/2	196/2
Regina and Edmonton	180/2	181/7	191/6	192/5	193/3	192/6	192/6
Durum Wheat (No. 1 C.W.A.D.)							
Winnipeg	187/6	188/3	214/2	215/1	215/7	215/2	215/2
Regina and Edmonton	184/2	184/7	210/6	211/5	212/3	211/6	211/6
Feed Wheat							
Winnipeg	160/4	161/3	177/2	178/1	178/7	178/2	178/2
Regina and Edmonton	157	157/7	173/6	174/5	175/3	174/6	174/6
Oats (No. 1 feed)							
Winnipeg	76/5	78/1	81/1	81/2	80/1	76/5	76/7
Regina	74/5	76/1	79/1	79/2	78/1	74/5	74/7
Edmonton	72/5	74/1	77/1	77/2	76/1	72/5	72/7
Barley (No. 1 feed)							
Winnipeg	117	120/7	121/5	121/5	121/3	115/4	112/4
Regina	114	118	118/6	118/6	118/4	112/5	109/5
Edmonton	111/2	115/1	115/7	115/7	115/5	109/6	106/6
Rye (No. 2 C.W.)							
Winnipeg	119/1	126/1	117/6	120/2	124/4	122/1	123/3
Regina	115/6	122/5	114/3	116/7	121/1	118/6	120
Edmonton	112/3	119/2	111/1	113/5	117/7	115/4	116/6
Flaxseed (No. 1 C.W.)							
Winnipeg	289/2	290/4	283/4	281/5	284/2	285/4	286/4
Regina	286	287/1	280/2	278/3	281	282/2	283/2
Edmonton	282/5	283/7	276/6	274/7	277/4	278/6	279/6
Rapeseed (No. 1 C.W. basis in store Vancouver)	266/1	290/5	265/6	268/3	285/5	280	282/3

[a]Since the average farm values for manufacturing milk and butterfat published by the Dominion Bureau of Statistics (D.B.S.) do not include the Federal subsidies as of April 1, 1966, it is necessary to add, during the 12-months' period ended March 31, 1967, the Federal payment of 85 cents per hundred pounds of milk testing 3.5% butterfat to obtain the full returns to producers. Ten cents are retained for export aid. The net payment of 75 cents per cwt. is made directly to farmers, at the equivalent rate of 21.43 cents per pound of butterfat.

[b]In the province of Quebec, and beginning April 1, 1966, full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote [a]), plus a payment made by the Quebec government. This payment is made on butterfat at the rate of five cents per pound from April 1 to September 30 and at the rate of 10 cents per pound from October 1 to March 31. Prior to April 1, 1966, this payment, which began in October, 1964, was made through factories and was part of the producer's farm value.

[c]In the province of Ontario, and beginning October 1, 1966 until March 31, 1967 full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote [a]), plus a payment made by the Ontario government. The payments amount to 25 cents per hundredweight (7.14 cents per pound butterfat) of manufacturing milk and secondary and excess fluid milk delivered to plants, basis 3.5% butterfat. For all cream grading Special and/or No. 1, the payment is 10 cents per pound butterfat.

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COMMODITY REVIEW

GRAINS AND FEED

Wheat Situation and Outlook, 1966-67—A record world wheat production of 10.3 billion bushels has been estimated by the International Wheat Council for the 1966-67 crop year. This compares with a previous record of 10.1 billion bushels in 1964-65 and is well above the five-year average, beginning in 1960-61, of 9.1 billion bushels. Favorable weather in the major producing countries was responsible for bringing the world wheat crop back on to the upward trend which has occurred in production since the 1950's. Table 1 indicates production trends in five major exporting countries in recent years.

TABLE 1—WHEAT PRODUCTION IN FIVE MAJOR EXPORTING COUNTRIES

	1960/61-1964/65	1964/65	1965/66	1966/67[1]
	million bushels			
U.S.A.	1,224	1,291	1,327	1,296
Canada	538	600	649	844
France	432	508	542	414
Australia	305	369	258	404
Argentina	263	414	228	257
Total for five countries	2,762	3,182	3,004	3,215

Source: International Wheat Council, *Annual Review 1965/66*.

[1] Provisional.

While total supplies at the beginning of the 1966-67 marketing year were larger than in the previous season, exports have so far been at a lower level. Consequently, the supplies of wheat held by the four traditional major exporters, as of February 1, 1967, for export and year-end carryover amounted to 1.93 billion bushels, 3 per cent below the 1.99 billion bushels at the same time in 1966. Although supplies were larger in Canada and Australia, these increases were more than offset by declines in the totals for the United States and Argentina (Table 2).

Wheat and wheat flour (in terms of wheat) exports by the four major exporters during the first six months of the Canadian 1966-67 crop year amounted to 850 million bushels, 8 per cent below the previous record total of 927.6 million bushels exported during the same six months in 1965-66. Exports for the August-January period of 1966-67 are still the third highest on record, and sharply above the ten-year (1955-56 to 1964-65) average of 551.3 million bushels.

TABLE 2—WHEAT SUPPLIES OF MAJOR EXPORTERS AT FEBRUARY 1, 1966 AND 1967

Country	1966	1967
	million bushels	
United States	953	688
Canada	701	818
Argentina	177	111
Australia	163	311
Total for four countries	1,994	1,928

Source: Dominion Bureau of Statistics, *The Wheat Review*, Feb. 1967.

Canadian and Argentine exports of wheat and wheat flour are lower, whereas United States exports including aid shipments are higher than last year. Australian exports are much higher than last year, and about one-half of the wheat available for export had been sold by the end of March. Large sales have been made by the Australian Wheat Board to South America and Europe. United States sales are up primarily due to large aid shipments to India.

Canadian Wheat Board selling prices for No. 1 Northern Wheat, basis in store at Fort William-Port Arthur, have averaged about $2.12 per bushel for the first three months of 1967 compared with $2.00 per bushel for the first three months of 1966. No. 1 C.W. Amber Durum has averaged $2.28 compared with $2.00 in 1966 and Ontario Winter Wheat (No. 2 or better) has been $2.00 compared with $1.84. Nevertheless, the exceptional 1966 Canadian harvest brought wheat supplies to a record level of 1.3 billion bushels for the 1966-67 crop year, compared with 1.2 billion bushels for 1965-66. Canadian farmers marketed more wheat during the first half of the 1966-67 crop year than in the first half of the 1965-66 crop year, thus pushing up "visible" supplies.

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Although the Wheat Board selling prices continue firm and higher than those prevailing in 1966, Canadian wheat and wheat flour exports are not reaching the highest levels of recent years. As was anticipated earlier in the 1966-67 crop year, the year-end carryover at August 1, 1967 will be up considerably over that in 1966. Thus, regardless of the actual production in 1967, Canada will enter the 1967-68 season with higher stocks. With continuing strong exports and domestic demand, Canadian supplies should be absorbed at recent price levels. However, a production level in 1967 well in excess of 650 million bushels may have a dampening effect on price levels.

Canadian Crop Prospects for 1967—According to the Dominion Bureau of Statistics' annual report on "Intended Acreage of Principal Field Crops in Canada—1967", Canadian farmers planned on March 1 to plant 31.1 million acres of all classes of wheat in 1967. This area is 3 per cent more than the 30.3 million acres seeded in 1966, and 10 per cent greater than the 28 million acres seeded in 1965. The acreage intended for oats (grain and hay) is expected to remain unchanged at 9.1 million acres, but the area seeded to barley is expected to increase by 6 per cent to a total of 7.6 million acres compared with 7.2 million in 1966. Mixed grains acreage may total 1.6 million, slightly less than the previous year, and the acreage of corn for grain may rise by 6 per cent to 818,500 acres.

The acreage intended for rapeseed in 1967 at 1.42 million is some 3 per cent above the 1.39 million acres planted in 1966. A decrease of 28 per cent is expected in the area seeded to flaxseed, as farmers intended to plant 1.5 million acres to this crop in 1967, compared with 2.1 million acres in 1966. Soybean acreage is forecast at 265,000 acres and is 1 per cent smaller than the previous year. This marks the first down-turn in acreage planted to this crop in six years.

In addition to these seeding plans, farmers in the Prairie Provinces intend to increase summer fallow by 1 per cent to 25 million acres compared with 24.8 million in 1966. A fertilizer survey by the D.B.S. indicates that farmers in the three Prairie Provinces intend to use an estimated 25 per cent more fertilizer than was used in 1966. These intentions for 1967, together with seeded acreages for earlier years, are set out in Table 3.

While the D.B.S. report covers only intended acreages, it is useful to consider what production of these crops might be on the basis of an average yield. Taking the average yields over the six years 1961-66, the estimates of production for six crops are shown in Table 5 together with production in earlier years. A current six-year weighted average yield was used so as to include the poor year of 1961 as well as the extremely good year of 1966 (Table 4). On the basis of the weighted average yields, production in 1967 would be lower than in 1966 for wheat and barley but above the six-year average, assuming normal weather conditions. Oat production for grain should be below both last year and the six-year average. Rye production may be below 1966, but equal to the average, whereas mixed grain and corn production likely will be above the six-year average and about equal to 1966. If almost perfect climatic conditions are experienced as was the case in 1966, then production of oats for grain, barley and rye may be comparable to 1966, and wheat, mixed grains and corn production would reach new records. Even at a much lower yield of 15 bushels per acre, production of wheat would exceed 450 million bushels.

TABLE 3—SEEDED ACREAGE OF MAJOR GRAIN CROPS, 1961–66 AND INTENDED ACREAGE 1967, CANADA

Crop	1961-66 Average	1966	1967[1]
	million acres		
All wheat	28.0	30.3	31.1
Oats for grain	9.4	9.1	9.1
Barley	5.9	7.2	7.6
All rye	0.65	0.64	0.62
Mixed grains	1.5	1.6	1.6
Corn for grain	0.60	0.77	0.82

[1] Dominion Bureau of Statistics' estimate of acreage based on farmers' intentions as of March 1.

TABLE 4—YIELDS OF MAJOR GRAIN CROPS, CANADA 1961/66

Crop	1961	1966	1961/66 weighted average
	bushels per acre		
All wheat	11.2	27.9	21.8
Oats for grain	33.2	47.3	42.5
Barley	20.4	40.6	32.9
All rye	11.6	23.9	19.4
Mixed grains	39.2	46.1	46.0
Corn for grain	73.0	81.9	76.8

Source: Dominion Bureau of Statistics.

The figures give an indication of the level of production which would occur if 1967 yields per acre are equal to the average yields over the last six years. Thus these estimates of the 1967 production are of a statistical nature based on yield records of recent years and should be interpreted in this light. The estimates do not allow for recent upward trends in yields or the possible effects on wheat yields of the anticipated increase in fertilizer application.

TABLE 5—PRODUCTION OF MAJOR GRAIN CROPS, CANADA 1961/66 AND ESTIMATE FOR 1967[1]

Crop	1961/66 Average	1966	1967[2] Estimate
	million bushels		
All wheat	611.0	844.4	678
Oats for grain	398.6	388.7	388[3]
Barley	195.6	292.9	250
All rye	12.6	15.2	12
Mixed grains	69.2	73.0	73
Corn for grain	45.8	63.1	63

[1] Due to rounding, acreages multiplied by yields will not be exactly equal to production.

[2] Based on intended seeded acreages as of March 1, 1967 multiplied by weighted average yields for the period 1961/66.

[3] If the total acreage intended for oats for grain and hay is harvested as grain then production would be 388 million bushels. On the basis of recent experience about 800,000 acres will be used as hay thus lowering the 1967 estimate by about 35 million bushels.

United States' 1967 Crop Outlook—Drought has persisted in the Great Plains regions of the United States during the winter wheat growing season and has had a damaging effect on yields. The May estimate of the American winter wheat crop, however, is a record at 1.19 billion bushels, or 13 per cent higher than the 1.06 billion bushel crop of 1966 and 23 per cent above the 1961-65 average of 0.97 billion bushels.

Combined with the U.S. Department of Agriculture production estimate of 320 million bushels of spring wheat in 1967, the total U.S. production of wheat is estimated to be 1.51 billion bushels. This would compare with the 1966 wheat crop of 1.31 billion bushels and the 1965 crop of 1.32 billion bushels.

Oat production in 1967 is estimated to be similar to the 1960 level of 800 million bushels. At 377 million bushels, barley production is expected to be down slightly from the 1966 crop, whereas corn production is likely to be 500 million bushels above the 1966 crop at 4.6 billion bushels, due to smaller acreage diversions under the U.S. Feed Grain Program. The increase in acreage allotment was permitted in 1967 in an attempt to raise the low level of U.S. stocks of feed grains. This lower stock position has been one of the factors leading to firm prices in feed grains. The prices received by American farmers for corn averaged $1.28 per bushel for the October-March period or 14¢ higher than a year earlier. These higher prices have been reflected in the prices for Canadian corn.

Feed Grain Situation—Western feed wheat and Ontario corn prices were generally stronger in the first quarter of 1967 than in the first quarter of 1966, whereas oat prices remained at about the same level and barley prices were lower. Canadian Wheat Board selling prices for feed wheat, basis in store at Fort William—Port Arthur have averaged $1.90 per bushel compared with $1.73 in the first three months of 1966, while No. 2 yellow corn, f.o.b. Chatham, averaged $1.53 in 1967 compared with $1.45 per bushel in 1966. The rise in feed wheat prices is due to the smaller supplies of lower quality wheat and the general increase in wheat prices. Ontario corn prices probably reflect higher U.S. corn prices which are in turn the result of lower U.S. corn stocks. Oat prices remain about the same at 87¢ per bushel with supplies similar to last year. The decrease in barley prices from $1.33 for the first three months in 1966 to $1.24 for the same three-month period in 1967 is indicative of the larger 1966 Canadian barley crop.

It is expected that feed grain prices should remain at about the current levels until the completion of the seeding of the 1967 crop, and then, as the growing season progresses, prices will likely become sensitive to changes in crop prospects. The demand for feed grains in the latter part of 1967 and in 1968 may rise slightly as the number of grain-consuming units is expected to increase. It is anticipated nevertheless that 1967 crop production in Canada will provide adequate feed grain supplies to meet domestic and export requirements during the 1967-68 crop year.

G. A. Hiscocks and G. G. Pearson

TRENDS IN THE SHEEP INDUSTRY

Population—The sheep enterprise in Canada, with few exceptions, is not a full-time farming occupation and is regarded as a minor livestock enterprise. Sheep numbers in Canada have been following a declining trend since 1931 when the sheep and lamb population on farms was at an all-time high (Table 1).

The decline has been greatest in Eastern Canada where, in 1931, 61 per cent of Canada's sheep population was located. In 1958, numbers were about equal in Eastern and Western Canada and by 1966, 46 per cent of Canada's sheep population was located in the East, and 54 per cent in the West. On a provincial basis in 1966, Alberta led with 30 per cent, followed by Ontario (27), Saskatchewan (13), Quebec (11), British Columbia (7), Nova Scotia (4), Manitoba (4), New Brunswick (3) and Prince Edward Island (1). During the period 1951 to 1961, sheep numbers in Western Canada moved upward slightly but since then they have declined again.

Many reasons have been advanced for the gradual decline of sheep numbers in Canada. One factor is the increasing competition for land from other agricultural enterprises more appealing to farm operators. Increased mechanization has lowered the farm work load for most enterprises and to a lesser

TABLE 1—SHEEP AND LAMBS: NUMBERS ON FARMS AT JUNE 1, CANADA, SELECTED YEARS 1931 TO 1966

	East		West		Canada	
	Number	Per cent of 1931	Number	Per cent of 1931	Number	Per cent of 1931
	thousands		thousands		thousands	
1931	2,197	100	1,430	100	3,627[1]	100
1941	1,463	67	1,377	96	2,840	78
1951	862	39	599	42	1,461	40
1961	678	31	870	61	1,548	43
1962	640	29	793	55	1,433	39
1963	583	26	757	53	1,340	37
1964	553	25	733	51	1,286	35
1965	527	24	642	45	1,169	32
1966	502	23	592	41	1,094	30

[1] Largest population since records commenced in 1871 when there was a total of 3.1 million sheep and lambs.

Source: Dominion Bureau of Statistics, *Handbook of Agricultural Statistics, Part VI, Livestock and Animal Products, 1871-1965*, Cat. No. 21-508.

extent for sheep raising. Greater care and attention of flocks nowadays is necessary to avoid infestation of the animals by parasites which could quickly decimate a good flock of sheep. Predators continue to be a hazard to sheep and measures must be taken to ensure a flock's protection. These measures are usually expensive and are an important reason for the downswing in sheep numbers.

Production—Until the end of the Second World War, production of lamb and mutton remained fairly stable. Through the post-war period to 1951, production declined sharply from 64.2 million pounds in 1945 to 26.6 million in 1951. During the decade of the fifties, production remained nearly stationary at 31 million pounds. In 1961, production reached a new peak of 35 million pounds. Since that time domestic production of lamb and mutton has been easing downward and in 1966 was about 23 million pounds, 28 per cent below the average level of production in 1956-60 (Table 2).

Per caput consumption has shown some increases since 1956-60 when consumption averaged 2.8 pounds per person. For the past four years per caput consumption has ranged between 2.8 and 3.9 pounds. The difference has been accounted for by a sharp increase in imports which in 1966 were three times the 1956-60 average.

Exports—Canada exports small quantities of lamb and mutton, of which over 90 per cent goes to the United States. During the years 1944 to 1951, Canada's exports of mutton and lamb averaged an all-time high of nearly 5 million pounds per year. Exports in 1946, amounted to 11.3 million pounds, the largest on record since 1920. With the exception of 1958 when exports reached 1.4 million pounds, total exports since 1951 have been less than 1 million pounds annually. With the steady decline in domestic production, no gain in this trade can be expected.

Imports—Since 1950, imports of mutton and lamb into Canada have increased substantially. In the last

TABLE 2—MUTTON AND LAMB: PRODUCTION, IMPORTS, EXPORTS AND DOMESTIC DISAPPEARANCE IN CANADA,[1] SELECTED YEARS 1956 TO 1966

	Unit	1956-60 Average	1963	1964	1965	1966[2]
Animals slaughtered	'000 head	742.6	697.4	654.1	565.4	523.4
Estimated dressed weight	'000 lb.	32,102	30,481	28,711	24,548	23,085
On hand, January 1	'000 lb.	5,989	7,054	9,298	9,147	6,631
Imports	'000 lb.	17,142	47,856	37,356	30,299	55,643
Total supply	'000 lb.	55,233	85,391	75,365	63,994	85,359
Exports	'000 lb.	550	679	757	370	613
Used for canning	'000 lb.	1,221	1,108	1,227	1,454	1,372
On hand, December 31	'000 lb.	6,589	9,298	9,147	6,631	12,208
Domestic Disappearance	'000 lb.	46,873	74,306	64,234	55,539	71,166
Per caput Disappearance	lb.	2.8	3.9	3.3	2.8	3.6

Source: Dominion Bureau of Statistics, *Estimates of Production and Consumption of Meats*, Cat. No. 32-220.

[1] All meats, other than canned, are on basis of cold dressed carcass weight; canned meats are in terms of product.

[2] 1966: Preliminary.

four years imports have averaged 42.8 million pounds, up 25.7 million from the 1956-60 average. Currently, imports exceed 50 per cent of domestic supplies. The largest portion of imports originate in Australia followed by New Zealand and together these countries account for practically all of the lamb and mutton imports. In 1963 and 1964 mutton accounted for over 60 per cent of Canada's imports whereas in 1965 and 1966 mutton dropped to 45 per cent and lamb increased to 55 per cent. A small movement of live sheep and lambs takes place across the United States-Canada border, with imports to Canada averaging 20,800 head annually in the past three years and exports averaging 14,160 head. Declining domestic production has been largely responsible for the gain in imports.

Seasonal Marketing—There is an historical seasonal pattern of lamb marketing in Canada. Lamb gradings are highest in the fourth quarter of the year and lowest in the second quarter (Table 3). Prices reach their seasonal peak during the second quarter when marketings are light. Moreover, this is the season of the year when a strong demand for lamb exists; reflecting the preference of some consumers for early lambs. In the fourth quarter when spring lambs reach marketable weights, gradings are heaviest and prices are lowest.

Federal Policy—Since 1960, the Canada Department of Agriculture has given transportation assistance to sheep producers. The Department may pay the provincial governments for commercial ewes and ewe lambs retained for breeding purposes, an amount not exceeding one-half the actual transportation cost of the movement, within Western Canada; from Western Canada to Eastern Canada; from Quebec to the Atlantic Provinces or to Ontario. On July 28, 1965, approval was given to extend the Transportation Assistance Policy for a further three-year period up to and including the fiscal year 1967-68.

In order to encourage sheep production of high quality, the Canada Department of Agriculture pays a premium on Choice and Good grade lamb carcasses. The lamb premium policy was introduced on August 14, 1961. When introduced, the rates were $2.00 for each "Canada Choice" grade carcass and $1.00 for each "Canada Good" grade carcass weighing at least 36 pounds, but not over 51 pounds. Effective July 1, 1962, the lamb quality premium was payable on Choice and Good grade carcasses in the 52-56 pounds range. The amount of premiums paid from the introduction of the policy to the end of 1966 is shown in Table 4.

TABLE 3—LAMB GRADINGS, CANADA AND LAMB PRICES, TORONTO, 3-YEAR QUARTERLY AVERAGES, 1964–1966

Quarters	Lamb Gradings						Prices
	East		West		Canada		
	3-Year Average	Per cent of Total	3-Year Average	Per cent of Total	3-Year Average	Per cent of Total	3-Year Average Good Lambs Toronto
	number		number		number		dollars
1st	28,210	16.5	45,919	24.2	74,129	20.6	27.50
2nd	15,372	9.0	18,204	9.6	33,576	9.3	29.60
3rd	61,053	35.7	57,243	30.2	118,296	32.8	24.36
4th	66,182	38.8	68,392	36.0	134,574	37.3	23.86
Year	170,817	100.0	189,758	100.0	360,575	100.0	25.83

Source: Canada Department of Agriculture, *Annual Livestock Market Review.*

TABLE 4—NUMBER OF CHOICE AND GOOD LAMBS ELIGIBLE FOR PREMIUMS, 1961 TO 1966.

Year	Total Lambs Graded	Choice Grade		Good Grade		Total Premiums Paid, Calendar Year Basis
		Number	Per cent of total	Number	Per cent of total	
1961 (from Aug. 14)	361,919	160,708	44.4	75,611	20.9	$ 397,027
1962	499,279	257,803	51.6	101,442	20.3	617,048
1963	450,501	245,827	54.6	87,125	19.3	578,779
1964	436,490	231,442	53.0	91,936	21.1	554,820
1965	359,328	174,206	48.5	81,869	22.8	430,281
1966	285,906	142,130	49.7	64,858	22.7	349,118
Totals	2,393,423	1,212,116	50.6	502,841	21.0	$2,927,073

Source: Canada Department of Agriculture, *Facts and Figures, 1966.*

The Agricultural Stabilization Act of 1958, names "sheep" as a commodity for which price support is mandatory at not less than 80 per cent of the previous 10-year average price. Under authority of the Act, purchases of lamb were made in 1958-59, 1959-60, 1960-61, and 1961-62. During this period the net cost of the program to the Stabilization Board was approximately $1.7 million (Table 5) with maximum expenditure occurring in the 1961-62 fiscal year.

In 1962, the purchase program was replaced by a deficiency payment system designed to provide a national average price to producers of $18 per 100 pounds, live weight, for lambs of good quality or better in the 36 to 56 pound carcass weight range. The national weighted average price reflects the quantity sold at each price during the year in all regions of the country.

The national average of $18 per 100 pounds was regarded as the equivalent of the previous Toronto-based level. The floor price was raised to $18.80 per 100 pounds or 94 per cent of the base price for 1963-64; this price was maintained throughout 1964-65 and 1965-66. Average market prices have been above support levels in recent years and no payments have been made since 1961-62.

In 1958, a support price on wool of 60¢ a pound became effective in the form of a wool deficiency payment, the support year corresponding with the fiscal year April 1 to March 31. In the first year 1958-59, payment was made on all grades and all weights of shipments marketed at registered wool warehouses in Canada. In 1959-60, the Canada Defective grades or "rejects" were excluded, and the minimum weight of shipments eligible for wool deficiency payments was increased to 20 pounds per shipment.

The deficiency payment to producers is the amount by which the support price of 60¢ exceeds the price determined by the Stabilization Board to be the average market price to producers (F.O.B. Toronto) of representative wool grades during the 12-month period.

For the fiscal year 1965-66, the wool deficiency payment to producers amounted to 16.3¢ per pound with the total payment approximately $675,000. The largest net expenditure by the Stabilization Board for wool occurred in the 1958-59 fiscal year (Table 5). Since 1962 no lamb deficiency payments have been made. Offsetting this assistance has been a program of lamb quality premiums.

Since 1961, cash farm income from sheep and lambs has declined. Cash farm income from shorn wool increased moderately during 1963 and 1964 but declined in 1965. The increase in income from wool in the 1963-64 period reflects relatively higher farm wool prices with no increase in wool production. The decrease in 1965 reflects both a lower wool price and production.

In 1965, the total cash income from sheep and lambs including government assistance amounted to about $12 million (Table 5), less than 1 per cent of total farm cash income from livestock and livestock products.

A. M. Boswell

MANUFACTURING MILK

Under the dairy support program for the year 1967-68 which was announced on March 22, 1967 the Government set the total amount of money to be used for support at $125 million compared with about $90 million in 1966-67. Approximately $5 million of the money allotted to the support program will be used to carry products purchased under price support.

TABLE 5—CASH FARM INCOME; SHEEP, LAMBS AND WOOL AND FEDERAL ASSISTANCE, CANADA 1958 TO 1965.

	(1) Cash Farm Income			(2) Federal Assistance[c]				
	Sheep[a] and Lambs	Shorn[b] Wool	Total	Lamb Deficiency Payment	Lamb Quality Premium	Wool Deficiency Payment	Total	Total of 1 and 2
	thousand dollars							
1958	10,679	1,462	12,141	281	—	1,581	1,862	14,003
1959	10,626	1,697	12,323	361	—	1,183	1,544	13,867
1960	11,212	1,782	12,994	101	—	1,282	1,383	14,377
1961	11,678	1,882	13,560	928	397	1,217	2,542	16,102
1962	10,681	1,898	12,579	31	617	973	1,621	14,200
1963	9,715	2,036	11,751	—	579	699	1,278	13,029
1964	9,419	2,065	11,484	—	555	551	1,106	12,590
1965	9,302	1,605	10,907	—	430	675	1,105	12,012

[a] Source: Dominion Bureau of Statistics, *Farm Cash Receipts*, Cat. No. 21-001

[b] Source: Dominion Bureau of Statistics, *Handbook of Agricultural Statistics Part VI, Livestock and Animal Products 1871-1965*. Cat. No. 21-508.

[c] Source: Canada Department of Agriculture.

An important change was the transfer, effective April 1, 1967 of the management of the program from the Agricultural Stabilization Board to the newly formed Canadian Dairy Commission. The Canadian Dairy Commission has broad powers designed to permit it to develop a milk industry best suited to Canada's needs.

The 1967-68 Dairy Support Program—The support program for the 12 months ending March 31, 1968 consists of two basic instruments: an offer-to-purchase program and a direct payment.

The offer-to-purchase program establishes product prices. The Canadian Dairy Commission (C.D.C.) announced that it will offer to buy:

(1) creamery butter at 63¢ a lb. (A.S.B. 1966-67: 59¢)

(2) dry skim milk spray processed at 20¢ a lb. (A.S.B. 1966-67: 18¢)

(3) cheddar cheese at 38¢ a lb. (A.S.B. 1966-67: 38¢)

The direct payment program is based on a gross rate of $1.21 a 100 pounds of milk testing 3.5 per cent butterfat (1966-67: 85¢). From this gross rate a deduction of 11¢ will be made for the purpose of equalizing export prices with domestic prices (1966-67: 10¢). The net payment to producers will therefore amount to $1.10 a hundredweight or 31.42¢ per pound of butterfat. No payments will be made to "fluid" producers.

The Increase in Support—While it is difficult to show the actual total cash receipts of producers, the actual increase in the federal support can be shown as follows:

	Support price per pound		Increase in support price	
	1966-67	1967-68	per pound of product	per 100 pounds milk
Product:		cents		
Creamery butter	59	63	4	16.8[a]
Dry skim milk..	18	20	2	16.0[a]
Sub-total.....				32.8
		cents per 100 pounds milk		
Subsidy (net).....	75	110		35.0
Total increase in support price.....				67.8

[a]Estimated yield per 100 pounds milk = 4.2 pounds butter and 8.0 pounds dry skim milk.

The objective of the 1967-68 dairy program is to bring the average gross return to approximately $4.75 (net: $4.64) per 100 pounds of milk for manufacturing (1966-67: gross $4.10 a cwt.; net $4.00 a cwt.).

The above presentation is on a national basis and the variations in producer prices in each province prohibit a factual presentation of total return to producers, which would include both the market return and the return from federal support. However, an approximation can be made, based on the product prices of creamery butter and dry skim milk which resulted from federal price support plus the amount of federal payments made per 100 pounds of milk. In order to make this estimate, it has been assumed that 100 pounds of milk yielded 4.2 pounds of creamery butter and 8 pounds of powder, and manufacturing costs per 100 pounds of milk were 70¢ (Table 1).

TABLE 1—ESTIMATED PRODUCER RETURNS FOR MANUFACTURING MILK AT FACTORY, 1961–62 TO 1967–68

	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68
				cents per pound			
Ex-factory prices resulting from support program							
Butter (1).....	64.0	52.0[a]	52.0[a]	53.0[a]	55.0[a]	59.0	63.0
Skim milk (2).....	7.8	8.0	11.0	14.6	16.6	18.0	20.0
				dollars per hundredweight of milk			
Gross return to factory resulting from support program							
Creamery butter (3).....	2.69	2.18	2.18	2.23	2.31	2.50	2.64
Powder (4).....	0.62	0.64	0.88	1.17	1.33	1.45	1.60
Total (5) = (3) + (4).....	3.31	2.82	3.06	3.40	3.64	3.95	4.24
Estimated average cost of manufacturing 100 pounds milk (6).....	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Producer receipts for milk at factory (7) = (5) − (6).....	2.61	2.12	2.36	2.70	2.94	3.25	3.54
Subsidy per 100 pounds milk (8).....	0.25	0.50[a]	0.50[a]	0.46[a]	0.58[a-b]	0.85[c]	1.21[c]
Total producer receipts (9) = (7) + (8).....	2.86	2.62	2.86	3.16	3.52	4.10[c]	4.75[c]

[a] During the four years from 1962-63 to 1965-66, the government maintained producer receipts at the equivalent of 64¢ a pound of creamery butter. This support level was implemented through a combination of a purchase price (line 1) and a butter subsidy (line 8) at the rate of 12¢ per pound of butter in 1962-63 and 1963-64, 11¢ in 1964-65, and 9¢ in 1965-66.

[b] Includes a supplementary payment of 20¢ a hundredweight.

[c] Total producer receipts were reduced by 10¢ a hundredweight in 1966-67 and will be reduced by 11¢ in 1967-68 for equalization of domestic and export prices.

Subsidy Eligibility Quotas—For 1966-67, domestic utilization of manufacturing milk produced by manufacturing milk producers amounted to approximately 99,500,000 hundredweight. This utilization was obtained with the aid of a payment of 85¢ a 100 pounds of milk. If consumers had had to pay a full price for milk products, the demand for manufacturing milk would have been less than 99,500,000 hundredweight. To illustrate this point, the price of creamery butter would have been about 20¢ higher without the 85¢ payment, and cheddar cheese would have been 9.5¢ more.

For the current year, the subsidy rate of $1.21 a hundredweight represents about 29¢ a pound of butter and 13.5¢ a pound of cheese. This indicates that the current "balance" between production and consumption is achieved only through the use of a substantial subsidy.

The Canadian Dairy Commission is obligated to stay within the budget and it is committed to make payments of $1.21 a hundredweight of milk. At this rate, the quantity of milk on which this payment can be made is about 99,500,000 hundredweight, the approximate utilization of manufacturing milk in 1966-67. Thus, each manufacturing milk shipper will be allotted a "subsidy eligibility quota" for 1967-68 by the C.D.C. which will be the quantity of milk on which the producer received subsidy during 1966-67. Producers with less than 50,000 pounds of milk deliveries a year will be permitted to have a quota of up to 50,000 pounds in 1967-68. Reallocation of quotas will be allowed in the event of changes in existing farm arrangements, such as partnerships and the purchase of complete herds and farms.

H. Mestern

EGGS AND POULTRY MEAT

Egg Marketings and Price Outlook—Egg marketings in Canada at registered grading stations during the January-March quarter of 1967 were up by eight per cent from marketings in the same period of 1966. The rising trend of egg production from a year earlier is the result of the sharp expansion that occurred in pullet growing operations between May, 1966 and February, 1967. During the last half of 1966, egg supplies were relatively light and egg prices were high. As a result of the favorable egg market conditions in 1966, pullet chick placements in Canada during the period from May, 1966 to April, 1967 totaled 25.4 million, up by 2.3 million pullet chicks, or by about 10 per cent from the same period a year earlier. The rate of replacement dropped below year-earlier levels in March, 1967. Thus, the expansion phase that was generated by the strong egg market of last year appears to have ended.

However, these placements will contribute to a rising trend in egg production until August when pullet layer numbers in Canada will reach a peak of about 23 million, compared with 21 million in August, 1966 and 20.7 million in December, 1966 when the upward trend in layer numbers began. Egg marketings at registered stations during the April-June period are expected to average 164,000 cases per week, 15,000 cases more per week than during the same quarter last year. Larger marketings are expected in all regions, except for the Maritimes where no change is forecast, with Ontario and Quebec recording the biggest increases.

Summer egg production is expected to decline less than usual because of the increased rate of laying flock replacements until August. Registered marketings are forecast to decline during the summer to an average weekly rate of 155,000 cases, up 12,000 from the same period in 1966. Early fall marketings will likely show a modest seasonal decline, but will remain well above the same period in 1966.

Egg prices in Canada during January declined sharply due to the larger egg supply. Since February, most markets have stabilized at a relatively low level of prices, and price movements have held to a narrow range. There was some market strength prior to Easter, but that was more than offset by further small declines in April. Prices are likely to remain weak until late June or July, but further large declines are not expected because lower retail prices are encouraging greater egg consumption, and egg processing operations have expanded sharply from 1966 levels.

Egg Processing—Up to April 29, 1967, the production of liquid egg in registered egg breaking plants in Canada totaled 10.7 million pounds, more than double the production of 5 million pounds in the same period of 1966. Registered egg breaking operations in this period of 1967 utilized about 275,000 cases, an average rate of about 16,000 cases per week, up about 9,000 cases per week from the same period of 1966. However, larger imports of eggs from the U.S.A., particularly since Easter, have accounted for more than half of the increased use of shell eggs for breaking that has occurred in 1967.

Liquid eggs are converted into a wide variety of products, the main demand for which exists among commercial bakeries. The principal classification of egg products are whole eggs (either plain or fortified with added yolk), yolks and albumen. These products are available to users in either of three forms, namely, frozen, dried or fresh liquid. In 1966, of the 18.3 million pounds of liquid egg produced in registered breaking plants, 13.2 million pounds were frozen and 5 million pounds were either dried or sold as fresh liquid. Frozen egg products from registered plants in Canada are subject to the provisions of the

Frozen Egg Regulations, which include grade standards and marking specifications as well as other matters related to the operation of egg breaking plants under federal registration.

There are no federal regulations with respect to grading or marking of either dried or liquid egg products. Dried eggs are used mostly in the manufacture of dry, packaged cake mixes while liquid eggs are used by large commercial bakeries. The fresh liquid product is mostly handled in bulk in stainless steel equipment in contrast to frozen eggs which are packaged in 30-pound metal or paperboard containers. Bulk methods of handling liquid eggs will likely increase in those areas where egg breaking plants are located near large users of egg products.

At the present time there are 42 registered egg breaking plants in Canada; Ontario and Manitoba, which are the leading provinces in the production of egg products, have 17 and six plants respectively. There are no registered processing plants in the Atlantic provinces, but there are plants within the major egg markets of Quebec and western Canada.

The level of egg breaking plant operations in Canada has varied with the cyclical and seasonal supply and price of surplus eggs, which are mostly of farm origin as distinct from the regular marketings of commercial producers. A high percentage of egg marketings from small flocks grade out as B's or C's because of poor storage conditions and slow handling methods. However, this source of breaking stock is dwindling rapidly because of the downward trend in the numbers of small flocks. As a result, breaking plant managers have had to purchase relatively larger quantities of Grade A eggs in recent years to maintain their operations. In 1965, 49 per cent of the eggs used in registered breaking plants were Grades B, C or Cracks compared with 69 per cent in those grades in 1961.

Breaking plant operations in the Prairie Provinces, particularly in Saskatchewan, have been reduced because of the dwindling supply of breaking stock in that region. Between 1961 and 1967, 10 of the 24 breaking plants operating in 1961 closed. The shortage of breaking stock has also prevailed in Ontario where it has contributed to the closing of a few plants since 1961. This situation has contributed toward higher plant costs for shell eggs, higher product selling prices and a less competitive position in terms of foreign trade in egg products.

Poultry Meat Production—Poultry meat production in registered plants during the first quarter of 1967 recorded a 17 per cent increase from the same quarter in 1966. Most of the rise in tonnage was due to larger marketings of broiler chickens and to a lesser extent, of broiler turkeys and of heavy chickens. Output of poultry in registered plants in the January—March period totaled 147.3 million pounds compared with 129.3 million in the same period a year ago.

Marketings of *broiler chickens* totaled 33.1 million head in the January—March period of this year, up about 4.1 million birds, or by 14 per cent, from the same period last year. Production has increased in all provinces. The rise of output in Quebec was exceptionally large, and Quebec has taken over from Ontario as Canada's leading broiler chicken-producing province. Part of the expansion in Quebec has been because of a large expected demand associated with Expo.

The higher trend in marketings of the first quarter will continue to mid-year at least, but the percentage increase from a year ago is expected to be slightly less than in the first quarter. Broiler chick placements in February and March averaged 3,140,000 per week, up about 9 per cent from the same months last year. Hatches during April being seasonally larger, will also be up moderately from last year according to reports of egg settings in April.

Broiler chicken markets across Canada were adjusted lower during the early winter period and have continued slightly under a year earlier since that time. Since January, broiler prices to producers have risen slightly in the Prairies and in Ontario and have followed a level trend in Vancouver and in Quebec. Storage stocks of broiler chicken at April 1 were reported at 13.6 million pounds, more than double the level at the same date in 1965 and 1966. In view of continuing heavy production and the heavy storage position, it appears likely that broiler markets until mid-year will remain close to current levels.

Marketings of *broiler turkeys* at registered plants in Canada during the first quarter of 1967 totaled 2,342,000 head, or 19 per cent more than during the first three months of 1966. Most of the sharp expansion occurred in Ontario and in British Columbia where it became the cause of great concern among industry members because of the problems of marketing at remunerative prices under those conditions. As a result of industry meetings in Ontario to discuss the problem, some voluntary action has been taken by various members to cut back expansion programs. This has been reflected in a reduced volume of egg settings from late February to early April and a consequent reduction in poult placements from mid-March to the end of April.

Poult placements of both broiler and heavy-weight types were sharply above year-earlier levels in January and February. Cutbacks in March and April are expected to reduce percentage increases in the cumulative totals at April 30 to 8 per cent and 3 per cent from a year ago in the case of junior and tonnage turkeys respectively.

TABLE 1—PRODUCTION OF EGG PRODUCTS IN REGISTERED PLANTS IN CANADA, BY KIND OF PRODUCT, 1962 TO 1966

	Frozen Albumen							
	Whole Egg						Other Egg Products[1]	Total Liquid Egg Production
	Plain	Fortified	Total	Yolk	Albumen	Total Frozen		
	million pounds							
1962	10.6	2.4	13.0	4.1	4.2	21.3	n.a.	21.3
1963	9.5	2.3	11.8	3.2	3.3	18.3	n.a.	18.3
1964	12.6	2.4	15.0	4.0	4.2	23.2	n.a.	23.2
1965	n.a.	n.a.	12.2	3.1	3.8	19.1	4.4	23.5
1966	n.a.	n.a.	8.2	2.0	3.0	13.2	5.0	18.3
Apr. 30 1966			2.3	0.7	0.8	3.8	1.2	5.0
Apr. 29 1967			5.2	1.5	1.5	8.2	2.5	10.7

[1] Liquid egg used to make various egg solids and used for immediate consumption.
n.a. Not available or no longer reported separately.

TABLE 2—EGGS BROKEN IN REGISTERED PLANTS, IN CANADA FOR FREEZING 1962–1965 AND FOR ALL PRODUCTS IN 1966

	British Columbia	Alberta	Saskatchewan	Manitoba	Ontario	Quebec	Total
	thousand cases						
1962	26.5	35.4	10.6	171.9	281.3	8.3	534.1
1963	27.4	19.6	10.7	150.3	224.1	9.1	451.2
1964	40.7	31.8	9.8	192.3	260.2	57.1	591.9
1965[1]	40.8	24.1	1.9	146.6	225.5	58.7	497.7
1966[1]	49.0	21.0	6.0	127.0	206.0	58.0	468.0

[1] Approximately 114,000 and 128,000 cases were used for dried and fresh liquid eggs in 1965 and 1966 respectively.

TABLE 3—REGISTERED EGG BREAKING PLANTS IN CANADA, BY PROVINCE, 1961 TO 1967.

	British Columbia	Alberta	Saskatchewan	Manitoba	Ontario	Quebec	Canada
	number						
1961	5	6	10	8	20	2	51
1962	8	5	10	7	18	2	50
1963	7	5	8	8	18	2	48
1964	6	5	7	7	17	3	45
1965	6	4	4	6	17	3	40
1966	7	4	4	5	17	4	41
1967	7	4	4	6	17	4	42

TABLE 4—PRODUCTION OF FROZEN EGG PRODUCTS IN REGISTERED PLANTS IN CANADA, BY MONTHS, 1962 TO APRIL 1967.

	1962	1963	1964	1965	1966	1967
	million pounds					
January	2.5	1.6	1.7	2.0	1.5	2.0
February	2.3	0.9	2.4	1.9	1.0	2.3
March	1.7	0.9	2.2	1.9	0.6	1.9
April	1.5	1.9	2.6	0.8	0.8	2.0[a]
May	3.0	3.4	2.7	2.6	1.6	
June	3.4	3.6	3.0	3.3	2.5	
July	2.1	2.0	2.8	2.6	1.6	
August	1.9	1.6	1.6	1.8	1.1	
September	1.1	0.8	1.3	1.2	0.6	
October	1.0	0.5	1.0	0.4	0.6	
November	0.4	0.6	1.0	0.3	0.6	
December	0.4	0.5	0.8	0.3	0.7	
Year	21.3	18.3	23.2	19.1	13.2	

[a] Preliminary.

Broiler turkey prices to producers in Ontario dropped to 20 cents per pound in late April, about 4 cents under the same date a year ago. Prices at Vancouver, Edmonton and Montreal were also down 3 cents from year-earlier levels.

Storage stocks of turkey at April 1 at 25.1 million pounds were 4 million pounds less than at March 1, and only 2.5 million more than a year ago. This indicates that turkey sales during the Easter holidays were extremely good. Marketings before Easter were very heavy, and moved readily into consumption. The combination of a strong demand and production cutbacks should halt any further price decline and some price improvement will likely occur before mid-year.

J. D. F. Kidd

POTATOES

Despite a larger movement of potatoes between January 1 and April 1, 1967 compared with the corresponding period of last year, stocks of potatoes at April 1 were reported to be 13.3 million hundredweight, which was 4.5 million hundredweight more than a year earlier. The bulk of this increase in stocks occurred in Eastern Canada. The western provinces have liberal supplies of potatoes which are being absorbed by the local demand and most markets there are steady with wholesale prices higher than in the East.

If marketings in Canada for the balance of this season correspond to those of 1966, there will be a large volume of potatoes unsold at the end of the crop year. Moreover, in Maine, U.S.A., there is an even bigger surplus than in Canada. The United States as a whole had a very large crop and has heavy stocks, although in the West stocks are not quite as large as those of a year ago.

The prospect of large quantities of unsold potatoes at the end of the marketing season suggests not only that the customary seasonal rise in prices will take place later than usual, but that there may be a further weakening of prices until the potatoes have been removed from the market.

According to farmers intentions at March 1, 1967, prospective potato acreage in the Maritimes will be 114,000 acres, which is 7 per cent less than 1966; in Central Canada 126,300 acres, which is 1 per cent less; in Western Canada 77,500 acres, the same as in 1966. Total acreage in Canada may be 317,000 acres; this would be 3 per cent less than last year, but 7 per cent above the 1961-65 average. The indicated acreage in the U.S.A. for late summer and fall potatoes is 1.2 million acres, 2 per cent less than 1966, with Maine acreage 3 per cent more than 1966.

For Canada the 1967 intended acreage, while a reduction of 3 per cent over 1966, is still 19,000 acres more than in 1965. In that year the crop was marketed at firm prices, but only because yields were low. In the United States, the fall and late summer indicated acreage for 1967 is 46,000 acres more than the 1961-65 average. For North America, the acreage indicated for 1967 is thus much above the average of the past six years and with good weather and average yields, another large crop could be harvested during 1967-68, with producer prices again at a low level.

On the basis of past experience and allowing for increased population and new markets, the intended acreage in the U.S.A. and Canada appears to be 3 to 6 per cent greater than that which was associated with the favorable returns of the 1964-65 and 1965-66 seasons.

J. G. Lussier

TOMATOES—GENERAL REVIEW

Tomatoes are grown in Canada in open fields and greenhouses. In the past 10 years, the open-field tomato crop has shown some very clear trends. While the acreage has decreased from 46,000 to 35,000 acres, yields have increased from 15,300 to 25,900 pounds per acre. This increase in yield offset the reduction in acreage, resulting in a record production in 1965 of over 899 million pounds. The increase in yield per acre has been mainly the result of improved technology. The practice of early planting gives a longer growing season for greater production. Efficient fertilizer application and modern placement procedures increase the assimilation of nutrients by the plants. Modern machinery and equipment also contribute to higher yields per acre through better tillage and weed control. Technical progress is likely to continue and the yield per acre should continue to increase.

The Province of Ontario is the largest tomato producer in Canada, having 90 per cent of the total tomato acreage, and 75 per cent of the total greenhouse production. The largest tomato-producing zone is in the Counties of Essex and Kent which have 72 per cent of the total acreage of the Province.

Quebec ranks second in importance in tomato production, having 9.7 per cent of the total Canadian tomato-producing area. About 81 per cent of this area is used for fresh tomato production which represents 20 per cent of the total fresh tomato acreage in Canada.

The greenhouse industry has been growing in importance, and production in 1964 was almost four times that in 1955 (Table 1). However, after this period of fast growth, it is unlikely that production will increase at as fast a rate because the greenhouse industry is not yet ready for large-scale commercial production of tomatoes. More revenue can be earned from the

production of flowers and potted plants. Greenhouse tomatoes are a specialty commodity which normally enter the market outside of the harvesting season for field tomatoes.

Canadian tomatoes are produced mainly for processing rather than for fresh consumption. The bulk of tomato exports is in processed form and over 72 per cent of domestic consumption is processed. The main product of the processing industry is tomato juice, of which there was a record production in 1965 of 227 million pounds.

The open-field production of fresh tomatoes is very stable, with almost no variation from 1955 to 1964. Greenhouse production still provides only about 5 per cent of total fresh consumption. Over 50 per cent of the fresh tomato consumption is supplied by imports, mainly from the U.S.A. and Mexico.

Fresh tomato imports reach their peak volume in the month of June when demand starts to be heavy and domestic supply is still small (Table 2). On the other hand, imports drop to a minimum in August and September when the Canadian supply is at its heaviest and import tariffs are highest. Imports of fresh tomatoes are free from tariff between January 1 and March 31, and in these months the volume is quite high. With the exception of these three months, tariffs for fresh tomato imports are a charge of $1\frac{1}{2}$¢, per pound for a maximum of 32 weeks following March 31 and 10 per cent for the remainder of the year. While these regulations do not apply to British Preference countries which may export free to Canada, very few tomato imports come from these countries.

Peak tomato prices on the Toronto market occur in the months of March, April, November and December, when domestic supply is lowest. The lowest prices occur in August, the month of greatest domestic supply. However, it is in the month of August that the widest difference between minimum and maximum prices occurs, possibly because of fluctuations in demand for the Ontario supplies from other areas. Seasonal average wholesale prices for field and greenhouse tomatoes for the years 1960 to 1965 are shown in Table 3.

In general, Canada's international trade in tomatoes shows a heavy deficit. In 1965 and 1966, total imports of tomatoes amounted to $28 million and $28.6 million respectively, while Canadian exports were only $2 million and $1.7 million in the same years. The largest portion of imports was fresh tomatoes which in the period 1961-66 represented 66.6 per cent of the

TABLE 1—TOMATO PRODUCTION, CANADA, 1955 TO 1965

Year	Open Field			Greenhouse	Total
	Area	Yield per acre	Production	Production	Production
	acres	pounds	thousand pounds		
1955	45,590	15,319	698,385	3,547	701,932
1956	49,740	12,217	607,658	n.a.	607,658
1957	51,380	12,023	617,727	6,040	623,767
1958	51,570	15,760	812,766	6,784	819,550
1959	41,230	17,921	738,903	6,825	745,728
1960	40,260	21,551	867,658	7,787	875,445
1961	32,480	24,252	787,710	10,657	798,367
1962	33,200	26,044	864,662	11,636	876,298
1963	31,070	22,381	695,393	16,651	712,044
1964	34,360	22,490	772,748	17,277	789,015
1965	34,730	25,890	899,157	n.a.	n.a.

TABLE 2—IMPORTS OF FRESH TOMATOES, CANADA BY MONTHS FOR SELECTED YEARS, 1955 TO 1966

	1955	1956	1965	1966	Average 1955-66
	thousand pounds				
January	7,699	9,189	12,640	14,318	11,865
February	10,520	10,766	15,551	15,746	12,523
March	11,959	7,191	17,917	20,599	14,946
April	14,351	13,889	17,318	19,483	16,720
May	20,427	19,119	21,263	20,879	19,796
June	23,652	19,489	20,890	23,353	21,752
July	9,009	13,710	16,410	18,300	15,339
August	4,431	4,066	8,610	11,894	6,586
September	4,682	21,085	5,644	7,354	6,570
October	8,779	34,134	10,138	8,546	12,576
November	9,462	9,926	11,567	11,603	9,927
December	9,737	8,972	12,739	13,422	11,700

total value although only 43.8 per cent in volume. The most important processed tomato import was canned tomato paste, while in exports it was canned tomato juice. In 1965 and 1966, canned tomato juice amounted to 81 per cent of the total value of exports.

TABLE 3—TOMATO PRICES, SEASONAL AVERAGE WHOLESALE QUOTATIONS, ONTARIO AND BRITISH COLUMBIA, 1960 TO 1965

Year	Open Field		
	British Columbia	Ontario[a]	Greenhouse[a]
	dollars per four baskets		
1960	3.04	2.20	4.66
1961	3.31	2.48	4.08
1962	3.11	2.66	4.54
1963	3.08	2.67	4.26
1964	3.04	2.80	4.58
1965	3.64	2.62	n.a.

[a]Ontario prices estimated from quotations for 11 quart baskets. Greenhouse prices estimated from quotations for one pound. Prices may have been higher than these estimates because cost of repacking is not included.

Canada's balance of trade in tomatoes, with the principal sources of imports and destination of exports, is shown in Tables 4 and 5. Exports to the United Kingdom are almost entirely of tomato juice —the only segment of the Canadian tomato international trade showing a favorable balance in the last two years.

The Canadian regulations on international trade of processed tomatoes are as follows:

(1) Canned tomato, including puree and sauce, free into Canada from countries included in the British Preferential Agreement. Other countries are charged 2¢ per pound.

(2) Tomato paste is free for British Preferential countries, while 1½¢ per pound is charged for other countries.

(3) On tomato juice, the British Preferential countries are charged 12.5 per cent, the tariff for other countries being 20 per cent.

With regard to consumption of tomatoes in Canada, it may be said that in spite of the slight decrease in per caput consumption shown in the last five-year period, per caput consumption of fresh and processed tomatoes may be considered quite stable at about 16 pounds for fresh and 43 pounds for processed tomatoes.

J. L. Pando

TABLE 4—IMPORT AND EXPORT TRADE, FRESH TOMATOES, CANADA, 1960 TO 1965

Year	Imports			Exports		Net position
	U.S.A.	Mexico	Total	U.S.A.	Total	
	thousand pounds					
1960	78,094	75,897	155,891	2,577	2,636	−153,155
1961	106,784	49,739	162,756	3,405	3,424	−159,332
1962	101,556	56,922	160,349	1,381	1,394	−158,955
1963	114,948	53,613	169,145	932	935	−168,910
1964	115,179	52,840	168,560	811	813	−167,747
1965	113,509	56,151	170,689	1,865	1,885	−168,804

TABLE 5—IMPORT AND EXPORT TRADE, PROCESSED TOMATOES,[1] CANADA, 1960 TO 1965

Year	Imports			Exports			Net Position
	U.S.A.	Italy	Total	U.K.	Central and South America	Total	
	thousand pounds						
1960	111,739	68,593	188,258	5,183	983	6,284	−181,974
1961	77,749	78,591	172,750	9,858	1,766	12,264	−160,486
1962	56,041	81,147	163,547	11,640	1,737	19,962	−143,585
1963	92,998	80,416	241,894	12,840	1,821	15,266	−226,628
1964	90,446	45,761	185,206	12,980	2,006	15,545	−169,661
1965	108,530	44,682	304,065	19,104	2,187	22,224	−281,841

[1]In terms of fresh tomatoes.

SUGAR BEETS

On February 21, 1967, it was announced that the Agricultural Stabilization Board had been authorized to support the 1967 sugar beet crop at a national level of $15.50 per standard ton (250 pounds of sugar) delivered to processing plants. This compares with a support level of $14.35 for the 1966 crop. As in 1966, the program will be carried out through deficiency payments determined in relation to world prices of cane sugar. There had been considerable uncertainty about the continuation of sugar beet production in Ontario and the announcement indicated that the program would contain an added stabilizing feature to meet the problems of price instability experienced in Ontario as a result of low world sugar prices.

The company operating the sugar beet factory at Chatham, Ontario, had indicated that it could not operate in 1967 with less than 20,000 acres under contract. Under the terms of the standard contract with individual growers, the company had an option until April 15 not to operate if there was insufficient acreage. However, on March 31, 1967, it was announced that this objective of 20,000 acres had been reached.

World sugar prices have continued to be volatile with relatively small changes in the total supply and demand situation leading to large changes in price. A postwar record low price of raw cane sugar on world markets was reached on January 9, 1967 when the London Daily Price was $12.25 per long ton. By early May, prices had about doubled in response to an upward revision of expected import requirements and a downward revision in the estimate of 1967 supplies in excess of domestic requirements. Thus the estimated net surplus position for 1967 had narrowed from an excess of about 4 million tons to one of slightly under 3 million tons. While this adjustment in estimates had led to a doubling of prices, an estimated surplus at the present time of even less than 3 million tons may be large enough to moderate further increases in price.

E. S. Eaton

PER CAPUT CONSUMPTION OF MEAT

With the continued rise in the average income per person in Canada, the per caput consumption of meat advanced to a new level of 188.4 pounds in 1966. This new level represents an increase of 11 pounds over the four years since 1963 and 20 pounds more than the average per caput consumption in 1956-60. This change is almost entirely due to beef and poultry meat; between the average of the years 1956-60 and the year 1966, per caput consumption of beef rose by 13 pounds or nearly 20 per cent, and poultry meat consumption increased by 12 pounds or nearly 50 per cent. At the same time, pork consumption declined by almost 3 pounds and there were slight changes in other meats.

Per Caput Red Meat Disappearance—Per caput disappearance of red meats in 1966 decreased 1.2 pounds from the revised 1965 level of 150 pounds, but was still 3.5 per cent higher than the 1961-65 five-year average of 143.8 pounds. Increases in beef and mutton and lamb were more than offset by decreases in pork, veal and canned meats. The quantity of beef consumed per caput continues to rise faster than the increase in total meat consumption so that the share of beef of all red meats in 1966 was 56 per cent, compared with 49 per cent in the five-year average for 1956-60. Per caput disappearance estimates for 1966, 1965 revised, 1964, 1963 and the periods 1956-60 and 1961-65 are shown in Table 1.

The meat equivalent of animal output from Canadian farms (slaughter and live exports of Canadian origin converted to average cold dressed weight of Canadian Slaughter) for 1966 was 3,083 million pounds, down 2.2 per cent from 1965. This decline in output can be attributed to lower slaughter of all kinds of livestock and lower live exports of cattle and sheep and lambs (not offset by increases in pig and calf live exports).

TABLE 1—PER CAPUT DISAPPEARANCE OF MEATS IN CANADA[1]

Kind of Meat	1956-60 Average	1961-65 Average	1963	1964	1965	1966
			pounds			
Beef	69.3	74.6	73.7	78.5	81.7	82.7
Veal	7.7	7.0	6.6	6.9	8.4	7.0
Mutton and Lamb	2.8	3.5	3.9	3.3	2.8	3.6
Pork	50.5	50.3	50.7	52.0	49.2	47.7
Offal	5.0	4.0	4.0	3.8	3.6	3.6
Canned Meats	5.4	4.4	4.4	4.5	4.3	4.2
Total	140.7	143.6	143.3	149.0	150.0	148.8

[1]Basis cold dressed carcass weight.

Source: Dominion Bureau of Statistics *Estimates of Production and Disappearance of Meats*, 1966. Cat. No. 32-220.

Output from slaughter in Canada, which includes live imports but not live exports, declined 3.9 per cent from 1965 to 3,028 million pounds in 1966. An increase in output of beef was more than offset by a decline in the output of veal, mutton and lamb.

Per caput beef consumption was up 1 pound to 82.7 pounds in 1966 from the revised 1965 level of 81.7 pounds. The average carcass weight of beef animals slaughtered increased from 530.7 pounds in 1965 to 545.5 pounds in 1966. Thus output increased from 1,707 million pounds to 1,725 million pounds in 1966, while numbers slaughtered in 1966 decreased to 3,233,000 head from 3,288,000 in 1965. Domestic disappearance was further increased by a decline in exports of beef and veal, from 102 million pounds in 1965 to 79 million pounds in 1966, and the rise in imports from 18.5 million pounds in 1965 to 25.4 million pounds in 1966.

The number of veal calves slaughtered declined from 1,317,000 in 1965 to 1,123,000 in 1966. Dressed weight and domestic disappearance were also lower than in 1965. The per caput veal consumption in 1966 was 7 pounds, 17 per cent below 1965 which was the highest since 1957 at 8.4 pounds.

The dressed weight of mutton and lambs slaughtered in Canada was down from 24.5 million pounds in 1965 to 23.1 million pounds in 1966. However, imports of mutton and lamb were up sharply at 55.6 million pounds in 1966, compared with 30.3 million pounds in 1965 and the average of 17.1 million pounds in the 1956-60 period. The proportion of domestic disappearance from imports was 36.5 per cent in the 1956-60 period, 58.3 per cent in 1964; 54.6 per cent in 1965 and 78.1 per cent in 1966. Per caput consumption increased from 2.8 pounds in 1965 to 3.6 pounds in 1966.

In 1966, the per caput disappearance of pork was 3 per cent below 1965 and 6 per cent below the 1956-60 and 1961-65 periods. Pig slaughter and pork output, imports and supply recorded declines for the second year in succession. The pork percentage of total red meats has declined from 36 per cent in 1956-60 to 32 per cent in 1966.

Per Caput Consumption of Poultry Meats—Per caput consumption of poultry meat in 1966 actually exceeded earlier estimates according to recent revised data published by the Dominion Bureau of Statistics. Consumption per caput of poultry meats in 1966 rose by 2.9 pounds from 36.7 pounds in 1965 to 39.6 pounds in 1966. The 1965 total was revised upward from an earlier estimate of 36 pounds per caput, due almost entirely to a change in the estimate of consumption of fowl from 3.9 to 4.5 pounds per caput in 1965.

The rise in the level of consumption in 1966 was entirely due to a larger production of broiler chicken and turkeys. Per caput consumption of chicken advanced by 2 pounds from 22.2 pounds in 1965 to 24.2 pounds in 1966. The estimate for the consumption of chicken excludes fowl, which remained constant at 4.5 pounds in 1966, but includes other farm chicken, heavy chicken (roasters and capons) and broilers or fryers, which comprised about 80 per cent of the total consumption of chicken in 1966. The relative importance of broiler-weight chicken (under 4 pounds, eviscerated weight basis) has increased steadily because of the drop in the output of farm chicken and the slower growth in the production of heavy chicken. Broiler chicken consumption in 1966 averaged about 19 pounds per caput.

The rise in the consumption of turkeys by 0.9 pounds to 10.4 pounds per caput in 1966 was mostly due to the rapid growth in the production of broiler-weight turkeys (10 pounds and under, eviscerated weight basis). The increasing acceptance of broiler turkeys is largely due to their size (6.5 to 9.5 pounds), availability (continuous production) and price in contrast with heavy hens and toms for which the greatest demand among householders prevails at Christmas, New Year and Thanksgiving. Broiler turkey consumption per caput in 1966 averaged about 3.3 pounds, up from 2.5 pounds in the previous year.

The fastest growing segment of the market for heavy turkeys is comprised of feeding establishments and of processors who convert heavy toms into various consumer packaged turkey meat items. Most of these products are oven-ready and will likely increase in popularity.

D. Sword and J. D. F. Kidd.

TABLE 2—PER CAPUT CONSUMPTION OF POULTRY MEAT IN CANADA, BY CLASS, 1956–1966

	1956-60 Average	1961-65 Average	1963	1964	1965	1966
			pounds per caput			
Chicken	—	—	19.7	21.3	22.2	24.2
Fowl	—	—	4.6	4.7	4.5	4.5
Chicken and Fowl	20.5	24.6	24.2	26.0	26.7	28.7
Turkey	6.5	8.3	8.3	8.6	9.5	10.4
Duck and Goose	0.2	0.16	0.5	0.5	0.5	0.5
Total Poultry Meat	27.4	33.4	33.0	35.1	36.7	39.6

THE GROWTH OF AGRICULTURAL CREDIT IN CANADA

R. S. Rust

The need for and the amount of credit supplied to farmers continues to grow each year. Barring significant downturns in the economic prospects for agriculture, the demand for increasing amounts of agricultural credit may be expected to continue in the foreseeable future unless a major change occurs in the desire of farmers to own all the land they operate. The growing size of the larger commercial farms, coupled with increasing land values in many parts of the country, is presently the major factor in the growing demand for credit. At the same time, however, there is an increasing awareness that larger expenditures on such factors of production as fertilizer may be the quickest way to increase farm income. The question of whether to make long-term investments in land with the limited capital resources available or to place more emphasis on intensifying operations on existing land will assume greater importance as the demand for credit increases.

In Table 1, estimates on farm credit extended and outstanding for 1965 are presented. They indicate that approximately $1,875 million in credit was extended to farmers in 1965, that farmers owed about $2,946 million at the end of the year and that up to $189 million was probably paid in interest charges. The amount extended represents an increase of $175 million over the amount extended in 1964 whereas indebtedness increased by $306 million. The major

TABLE 1—ESTIMATED FARM CREDIT EXTENDED AND OUTSTANDING, 1965[a]

Source and term of credit[b]	Amount extended 1965	Amount outstanding 1965	Estimated interest charge	Estimated average interest rates	Outstanding as a per cent of 1965 total
	millions of dollars			per cent	
Long term (over 10 years)					
Federal government agencies	223.9	712.0	38.4	5.4	24.2
Provincial government agencies	47.4	275.0	9.6	3.5	9.3
Private individuals	50.0	353.0	17.6	5.0	12.0
Insurance, mortgage, loan and trust companies	10.0	70.0	5.5	7.8	2.4
Industrial Development Bank	14.4	18.0	1.3	7.0	0.6
Treasury Branches (Alberta)	13.5	11.0	0.8	7.0	0.4
Sedco (Saskatchewan)	0.6	0.4	0.0	7.0	0.0
Total long term	359.8	1,439.4	73.2	5.1	48.9
Intermediate term (18 months to 10 years)					
Banks (FILA)	202.7	340.9	17.0	5.0	11.6
Supply company finance[c]	200.0	250.0	25.0	10.0	8.5
Insurance, mortgage, loan and trust companies	6.0	10.0	0.8	8.0	0.3
Credit unions	36.1	80.0	7.2	9.0	2.7
Finance companies (cars, trucks, household)[c]	15.0	20.0	3.0	12.0	0.7
Private individuals	10.0	46.0	2.3	5.0	1.6
Provincial government agencies	0.4	0.9	0.0	4.2	0.0
Treasury Branches (Alberta)	1.7	1.7	0.1	6.0	0.1
Total intermediate term	471.9	749.5	55.4	7.3	25.4
Short term (up to 18 months)					
Banks (non FILA)	610.0	459.5	28.5	6.2	15.6
Supply company finance	300.0	200.0	22.0	11.0	6.8
Credit unions	87.5	76.6	7.7	10.0	2.6
Finance companies[c]	30.0	10.0	1.5	15.0	0.3
Dealers, stores, etc.[c]	10.0	5.0	0.3	6.0	0.2
Private individuals	5.0	3.0	0.2	5.0	0.1
Treasury Branches (Alberta)	0.6	1.3	0.1	6.0	0.0
Unpaid taxes	—	2.0	0.1	6.0	0.1
Total short term	1,043.1	757.4	60.4	7.8	25.7
Total estimated credit	1,874.8	2,946.3	189.0	6.4	100.0

[a] In some cases, fiscal instead of calendar year data have been used as in previous summaries.

[b] The breakdown by length of term should only be looked upon as an approximation since some arbitrary decisions are involved.

[c] The data on credit from these sources are less reliable than data for other sources.

sources to which the increase in outstanding farm debt has been attributed are as follows: federal credit agencies, 49.9 per cent; Farm Improvement Loans from banks, 22.2 per cent; banks (non F.I.L.A.), 8.7 per cent; provincial credit agencies, 7.2 per cent; credit unions, 4 per cent, and the Industrial Development Bank, 2 per cent.

The estimate of $2,946 million in total credit outstanding is approximately 17.1 per cent of the estimated total capital investment in farm real estate, machinery and livestock for 1965. The comparable figure for 1964 was 16.7 per cent (*1*). The total credit extended in 1965 was equivalent to 10.9 per cent of the total capital investment, compared with a ratio of 10.8 per cent in the previous year. There were 480,903 census farms in 1961 and 430,522 in 1966. Based on a straight line trend in numbers of farms between these years, the average debt per farm was $3,748 in 1961, $5,002 in 1963, $5,859 in 1964 and $6,687 in 1965. Since there has been some improvement in the reporting of credit statistics over the period, the indicated increase in average debt per farm is slightly more than the actual.

The data in Table 1 show an estimate of $189 million for interest charges. Since the estimated interest charges on short-term credit outstanding include debts that may exist for only a few months, the estimate may appear slightly excessive. However, a balancing factor is that no allowance was made for short-term debt extended and repaid during the year.

In the United States, total farm debt at the end of 1964 was estimated to be $36,012 million and the credit extended during the year, $21,926 million. The amount extended was approximately 61 per cent of the total farm debt. In Canada, the estimated amounts extended in both 1964 and 1965 were approximately 64 per cent of the amounts outstanding. The slightly lower percentage in the United States may be attributable to the slightly longer terms that appear to take place in intermediate-term credit, especially in loans from banks. Based on a total number of 3,374,000 farms in the United States in 1964, the estimated average credit extended per farm in that year was $6,498 and the average debt outstanding $10,673 per farm (*2*).

In Table 2, a breakdown of data by provinces on farm credit from the Farm Credit Corporation is presented. Of the 11,049 loans disbursed during the year, 10,317 loans were made under Part II of the Farm Credit Act and 732 were under Part III which involves supervision. Approximately $181.7 million was disbursed under Part II and $19.9 million under Part III.

Farm credit activity by provincial agencies in 1965 was similar to that of the preceding year. Credit extended to farmers from these sources, which totaled just over $40 million in 1963, rose to over $49 million in 1964 and then dropped to $48 million in 1965. The provincial farm credit agencies in Quebec and Ontario provided more than 75 per cent of the total credit extended by all provinces in 1965. While newly implemented or pending legislation in some provinces may result in more credit being extended in the near future, decreasing activity in other provinces will likely result in very little change in the overall total during the next few years. In Table 3, a breakdown on data on farm credit from all government sources is presented.

Farm Improvement Loans from banks amounted to nearly $203 million in 1965 and represented an increase of approximately $52 million over the amount extended in 1964. The estimate of other loans extended by the banks to farmers during 1965 was $610 million. Of this amount, a small portion was in the form of improvement loans guaranteed by various provincial Acts against a limited amount of loss. The amount outstanding on F.I.L.A. loans increased from $341 million in 1964 to $459 million in 1965. Over 75 per cent of all loans were for farm machinery, equipment and trucks. Nearly 15 per cent of the total extended was for building purposes or the improvement of buildings, less than 7 per cent was used for the purchase of livestock and the remainder was

TABLE 2—FARM CREDIT CORPORATION LOANS BY PROVINCES[a]

Province	Number of loans extended	Amount disbursed	Number of loans outstanding	Amount of loans outstanding[b]
		dollars		dollars
British Columbia	592	13,574,691	2,114	32,541,749
Alberta	2,816	54,466,931	12,025	148,530,313
Saskatchewan	3,013	52,510,467	15,263	151,995,754
Manitoba	868	14,092,996	4,155	41,080,415
Ontario	2,243	14,119,401	12,306	143,270,625
Quebec	1,287	21,689,999	4,593	54,692,079
New Brunswick	75	1,144,818	748	4,818,858
Nova Scotia	58	989,024	456	3,470,017
Prince Edward Island	95	1,053,162	1,263	5,814,389
Newfoundland	2	46,153	9	142,287
Total	11,049	201,687,642	52,932	586,356,486

[a]All data are for fiscal year 1965-66.
[b]Does not include interest due.

TABLE 3—FARM CREDIT FROM ALL GOVERNMENT SOURCES, 1965

Source	Amount extended 1965	Amount outstanding 1965	Estimated interest on debt	Average loan extended	Average loan outstanding	Average interest rate
	million of dollars			dollars		per cent
British Columbia	0.50	1.59	0.64	1,505	920	4.0
Alberta, FPCA	1.87	16.81	0.84	8,899	7,310	5.0
Alberta, HLLA	0.12	0.56	0.03	1,199	1,093	4.5
Saskatchewan	0.50	5.53	0.36	15,177	11,725	6.5
Manitoba	6.91	29.77	1.49	13,938	12,899	5.0
Ontario	15.52	41.56	2.08	18,831	10,687	5.0
Quebec	20.41	165.37	4.13	8,708	4,117	2.5
New Brunswick, FSA, Pt. 1	0.55	1.97	0.06	5,771	2,731	3.0
New Brunswick, FSA, Pt. 2	0.13	0.29	0.01	819	1,379	4.5
Nova Scotia	0.71	8.67	0.43	3,047	9,380	5.0
Prince Edward Island	0.58	33.49	0.17	5,248	3,349	5.0
Newfoundland	0.04	0.43	0.01	1,760	4,000[a]	3.5
Total Provincial	47.85	275.90	9.68	9,641	5,050	3.5
Federal FCC	201.69	586.36	32.25	18,254	11,078	5.5
Federal VLA[b]	22.20	125.60	6.28	7,900	7,242	5.0
Total Federal	223.89	711.96	38.53	1,386	10,131	5.4
Total Government	271.73	987.86	48.21	18,822	7,909	4.9

[a] Estimate only.

[b] Does not include loans for non-agricultural purposes.

used for a multitude of other purposes. The average F.I.L.A. loan was $2,223 in 1965 and varied from a low of $1,780 in Prince Edward Island to a high of $2,575 in British Columbia. The average loan for equipment was $2,195, for homes and building improvements, $3,177, for livestock, $1,761 and for other purposes, $1,451.

While the relationship of the total cost of an average purchase to the average size of loan is not known, it is generally assumed that the average borrower obtaining a F.I.L.A. loan finances about one-third of the purchase price. This would mean that the average purchase price for machinery and equipment would be about $3,292. In view of the large number of sales of machinery far in excess of this average purchase price, it is quite probable that there are as many or more loans for expensive farm machinery made through direct bank loans as through Farm Improvement Loans. In Table 4, data showing the amount of Farm Improvement Loans by provinces are presented.

The part played by credit unions in providing agricultural credit in some provinces is growing in significance. In Saskatchewan in particular, the increase in the amount of credit supplied to farmers by credit unions has been spectacular. For 1965, it has been estimated that Saskatchewan credit unions extended $55 million and Quebec credit unions $24 million to farmers. The total amount outstanding to credit unions in the two provinces as a result of credit to farmers was estimated to be about $105 million.

REFERENCES

(*1*) R. S. Rust, Farm Credit Expansion in Canada, *Canadian Farm Economics*, Vol. 1, No. 1, April, 1966, pp. 23-26.

(*2*) Estimates for the United States were based mainly on information in *The Annual Report* of the Farm Credit Administration, 1964-65, Washington, D.C. Because of the differences in the definition of a census farm, some farms counted as farms in Canada would not be so counted in the United States. As a result, Canadian averages on credit extended per farm and on farm debt are underestimated relative to similar estimates for the United States.

TABLE 4—FARM IMPROVEMENT LOANS, 1965

Province	Amount extended	Amount outstanding	Average loan size	Proportion of total extended on			
				Implements	Buildings	Livestock	Other
	millions of dollars		dollars	per cent			
British Columbia	6.4	8.6	2,575	54.3	21.7	15.8	8.2
Alberta	58.6	100.1	2,188	75.7	12.2	8.6	3.5
Saskatchewan	64.1	101.9	2,220	85.7	8.0	4.0	2.2
Manitoba	25.5	43.3	2,173	78.3	13.1	6.0	2.5
Ontario	38.3	68.2	2,282	60.0	28.5	7.5	4.0
Quebec	4.8	11.0	2,373	63.8	20.1	11.9	4.2
New Brunswick	1.5	2.5	2,540	70.5	25.1	3.0	1.3
Nova Scotia	1.1	1.9	1,816	74.4	12.3	9.4	3.9
Prince Edward Island	2.1	3.3	1,780	72.5	22.0	4.1	1.4
Newfoundland	0.5	0.1	2,157	59.6	14.1	26.3	—
Total	202.7	340.9	2,223	75.2	14.8	6.8	3.2

THE POTENTIAL FOR INCREASING INCOME ON SMALL FARMS IN THE BROADVIEW AREA OF SOUTHEASTERN SASKATCHEWAN

G. J. Gartner

A study of the Broadview area of southeastern Saskatchewan was undertaken in 1966 to assess the possibility of improving the income position of small farmers through intensification practices. The study was conducted as part of a larger one which investigated the income, development and adjustment needs of a low income agricultural area (*1*).

The 62 small farms studied were on Oxbow-Ryerson soils in a portion of the Broadview Rural Development Area. These farms were part of a large group of small size, low income farms isolated by a social and economic survey of the area in 1964 (*2*). That survey indicated that the area had a high potential for improving income through intensive development activities.

A number of reasons exist as to why the farms in the area, particularly the small farms, have not exploited these intensive, income-generating production alternatives. Among these are:

(1) Inadequate capital (small savings and/or poor credit availability);

(2) Low managerial ability;

(3) Lack of knowledge of opportunities available for improving farm income; and

(4) Until recent years, expanding income by purchasing more land was a more attractive alternative than improving land already in the farm unit. However, with the recent rapid and large price increases together with improved technology in clearing and breaking land, intensification measures for improving farm income have taken on a more favorable appearance.

Intensification opportunities which have a practical application to small farms in the Broadview area are:

(1) Clearing and breaking arable land for production. Soil survey investigations in the area have indicated a significant potential for clearing and breaking native pasture and wooded areas (*3*). The soil survey divided potentially arable lands into classes based on the cost of bringing the land to a cultivated state. Clearing and breaking costs were estimated to range from a low of $8.00 per acre for Arable V to a high of $30 per acre for Arable I.

The small farm unit was estimated to have approximately 102 acres capable of improvement. No limitation was placed in the study on the crops which could be grown on the improved acreage. Table 1 indicates the amount and distribution of potentially arable land on the small farm unit, and the cost of clearing and breaking each class of arable land.

TABLE 1—SMALL FARM LAND RESOURCE COMPLEMENT, BROADVIEW AREA, SASKATCHEWAN

	Acres	Acreage Distribution	Clearing and Breaking Costs Per Acre
		per cent	dollars
Cultivated	230	57.5	—
Potentially Arable Land Class			
I	27	6.8	30
II	29	7.2	26
III	10	2.5	23
IV	21	5.2	16
V	15	3.8	8
Total Potentially Arable Land	102	25.5	
Waste or Idle Land	68	17.0	
Total Land	400	100.0	

(2) Fertilizer use on cereal crops. The potential for improving farm income through fertilizer use was represented in the study by including cropping alternatives utilizing fertilizers at recommended rates. Fertilizer was not applied in the plan to forage rotations because experimental research work has not shown this practice to be significantly beneficial for the area.

(3) Intensive cropping rotations involving limited summerfallow practices and various combinations of cereal and forage crop production. Annual precipitation in the Broadview area during the growing season appears to make limited summerfallowing a realistic production practice. The average annual total precipitation at Broadview is 16.13 inches (*2*) but the average rainfall from April 1 to August 31 is 10.85 inches. Several cropping rotations were included to explore the effect on labor returns of shifting away from the traditional cropping patterns to a more continuous cropping system.

(4) Expansion of livestock rearing and finishing enterprises. The social and economic survey of the Broadview area (*2*) indicated few cattle and hog rearing and feeding enterprises on farms of a scale commensurate with efficient labor and capital use. The low incidence of livestock finishing existed because of a need to sell unfinished stock in order to meet

periodic shortages of cash operating funds. This shortage of operating capital was due to either:

(a) the policy of lending institutions toward this type of loan, or

(b) the reluctance on the part of the farm operators to finance their operations on borrowed funds, or to a combination of both.

Table 2 presents a summary of the capital and labor complement of the small farm before the program analysis was initiated.

TABLE 2—PRE-ANALYSIS LABOR AND CAPITAL COMPLEMENTS PER FARM, SMALL FARM UNIT, BROADVIEW AREA, SASKATCHEWAN, 1964

Capital Investment		
Land	$10,060	
Improvements	6,080	
Machinery and Equipment	8,360	
Operating Capital	1,000	
Total Investment	25,500	
Labor Complement (hours)	**Operator**	**Hired**
Spring (seeding & post seeding operations)	240	40
Summer (summerfallow & haying operations)	350	—
Fall (harvest operations)	400	50
Winter (total available time)	1,410	—
Total	2,400	90

PROGRAM MODEL

The study attempted to develop optimum plans for the small farm by means of "variable resource programming" procedures. This method allows the supply of a scarce resource to vary mathematically from zero to an unlimited amount. In the analysis, the capital resource (credit for implementing intensification alternatives) was permitted to vary. By employing linear programming techniques the various intensification alternatives were allowed to compete for scarce capital in an effort to develop farm plans that would generate a maximum farm income for a given resource complement.

The programming model was set up so that an optimum plan could be determined for the small farm (with and without intensification). In each case, however, the farm resources were used in the most efficient manner, assuring maximum net income from a given resource supply. The first plan showed a maximum income when the farm had access to only its own operating capital to finance the normal operating costs of the farm operation. Having established this optimal non-intensive income position, varying amounts of borrowed short, intermediate and long-term credit were made available, allowing the program to finance the various intensification alternatives and to generate additional income over and above the level established before credit use.

The model selected organization alternatives on the basis of their capital-use efficiency, with those using capital more efficiently than others taking priority in the program. The model thus assured that a maximum income position would be shown for every level of resource use and credit employment. In other words, the model developed an optimum combination of intensification alternatives for every level of credit used along with a maximum net income position for any resource level.

RESULTS

Table 3 summarizes the income levels and production organization of the small farm before and after intensification opportunities were fully employed in the program. In addition to the final optimum plan, a more practical sub-optimum plan, intermediate between the non-intensive and intensive positions, has been included.

Some of the more important observations from the analysis are:

(1) The key to significant improvements in labor income was found to be in the large potential to increase the cultivated acreage by improving potentially arable land. The final optimum plan utilized all potentially arable land (102 acres) in the farm (in addition to that presently cultivated). This provided a greatly expanded land base upon which further intensification could occur.

(2) While the use of intensification techniques on the small farm produced a significant improvement in labor income, it did so only through the use of large amounts of credit. In addition to fully utilizing the $1,000 of owned operating capital, the final plan borrowed $13,700 of short-term credit and $2,300 of long-term credit. Short-term credit was used to finance the expanded cattle feeding enterprise in which calves were purchased in the fall, wintered over, and fed out on grain and pasture. Substantial amounts of short-term credit were also used to purchase additional feed grain supplies. Long-term credit was used primarily to develop the presently unimproved arable land on the farm.

(3) Intensification processes which made major contributions to income improvement took the form of:

(a) Commercial fertilizer for wheat production in a rotation of Wheat (fertilized)—Wheat—Fallow.

(b) Expanded livestock production operations utilizing tame pasture on the farm plus available community pasture facilities, along with a shift from cattle rearing and finishing to primarily finishing operations.

(c) Expansion of forage-cereal crop rotations and reduced summerfallowing to meet the needs of the expanded cattle feeding enterprise.

(d) Feed-grain demands were met through purchases from off-farm sources at market prices plus transportation costs, allowing the tillable acreage to be used for higher valued wheat and forage-crop production.

(4) From the analysis it was observed that even on the small farm, credit use can be pushed to relatively high levels before additional credit becomes redundant, particularly with respect to operating capital.

(5) *Sub-Optimum Plans*—The alternative of purchasing feeder calves in the final optimum plan may not be an attractive enterprise to many farmers in the small-farm category, particularly those who lack the managerial skills for this enterprise. The large amounts of operating credit needed could be a deterrent. In addition, the plans required purchase of large amounts of feed grains, another feature which generally would not be suitable for the average and below average small farm operation.

The analysis developed 20 sub-optimum plans between the before-and-after intensification plans presented in Table 3. These sub-optimum plans may still be regarded as optimum plans in that they utilize farm resources in a most efficient manner, given any particular level of available credit. One sub-optimum plan (Plan 15) is shown in Table 3. In this plan less capital-intensive livestock enterprises are present in the form of a beef cattle rearing and finishing operation in combination with a hog rearing and finishing operation on a two-litter per year basis. Because of the lower level of capital required, this level of intensification generated lower net returns than the final optimum plan. The plan used only $3,898 of borrowed capital, produced all feed grain and forage required by the livestock enterprises with the exception of summer pasture (which included 72 animal-unit months of grazing obtained from community

TABLE 3—LABOR RETURNS, OPTIMUM PRODUCTION ORGANIZATION, AND MARGINAL VALUES BEFORE AND AFTER INTENSIFICATION, FOR THE SMALL FARM UNIT, BROADVIEW, SASKATCHEWAN

Activity	Unit	Optimum Plan Before Intensification	Sub-Optimum Plan No. 15	Optimum Plan After Intensification
Cropping[a]				
W-O-F	Acre	217	144	—
W-O-Fg(5)-F	Acre	13	28	93
W(F)-W-F	Acre	—	160	165
Tame Pasture	Acre	—	6	74
Livestock				
Feeder Calf (Pasture)	Calf	—	—	87
Cow-Yearling (Pasture)	Cow	5	10	—
Hogs-2 litters/yr	Sow	—	2	—
Land Improvement	Acre	—	78	102
Capital Use				
Owned Operating Capital	$100	10	10	10
Borrowed Operating Capital	$100	—	28	137
Borrowed Intermediate Term Capital	$100	—	—	—
Borrowed Long Term Capital	$100	—	14.4	23
Miscellaneous				
Buy Feed Grain	100 lbs.	—	—	581
Sell Feed Grain	100 lbs.	1,036	—	—
Community Pasture Use	A.U.M.[b]	—	72	72
Hired Spring Labor	Hour	—	15	14
Labor Income	$	863	2,475	3,755
Marginal Values				
Total Capital	$100	130.41	18.81	0
Cropland	A.U.M.	12.51	10.51	15.57
Farm Pasture	A.U.M.	2.24	4.49	6.03
Community Pasture	A.U.M.	—	2.71	4.52
Spring Labor	Hour	—	1.84	1.55
Summer Labor	Hour	—	—	4.90
Grain Quota	Bushel	—	0.60	—
Hay Supply	1000 lbs.	11.54	7.65	12.73
Feed Grain Supply	100 lbs.	1.79	1.79	2.07

[a] W-O-F = Wheat-Oats-Fallow; W-O-Fg(5)-F = Wheat-Oats-Forage (5 years)-Fallow; W(F)-W-F = Wheat (fertilized)-Wheat-Fallow.

[b] The supply of grazing required, A.U.M. = Animal-Unit-Month to meet the forage needs of one animal unit for one month.

pasture sources) and generated labor returns of $2,475. The plan also permitted non-purchasing of livestock and borrowed only operating capital for normal operating purposes and fertilizer.

Other long-term credit was used in the plan for improving arable land for cropping purposes. The plan took full advantage of available community pasture quotas before converting cultivated land to tame pasture on the farm. This action allowed the farm to divert arable land to higher valued cereal grain production.

Several of the sub-optimum plans would provide more practical development plans than the final optimum plan from the standpoint of the average level of management capacity on the small farms. While the sub-optimum plans use less capital and produce less income, the income levels are well above a minimum living standard ($3,000), at least for the short term. Their specified production organization calls for less adjustment stress within the farm and study area along with less significant repercussions on regional and inter-regional product price and factor cost levels. For example, they require no purchased grain or feeder cattle to cause shifts in demand and prices within and between areas.

(6) *Diminishing Returns to Credit Use*—A noteworthy point from the analysis is the rapidly diminishing returns to capital use as the supply of credit is expanded in the program. Before credit is borrowed, the MVP of capital (the value added to net income by an additional unit of capital) is $130 per $100 unit of total capital. The level of returns declines rapidly over the program analysis as larger supplies are made available and as the more productive intensification alternatives become fully utilized. Up to Plan 15, the more productive uses of credit were in the form of fertilizer use, land improvement and cattle rearing and feeding. Under Plan 15, the MVP of capital declined to $18 per $100 of credit used. The plan used $4,240 of borrowed capital and added $1,612 to labor earnings. Between Plan 15 and the final optimum plan, an additional $11,760 of credit contributed only $1,280 to labor income through the use of "capital intensive" development alternatives, namely, purchasing feeder cattle and feed grain. Between Plan 15 and the final optimum plan, the MVP of capital declined from $18 to zero per $100 of borrowed funds. This comparison indicates that by Plan 15, the most profitable development alternatives have been fully exploited. Even if intensification did not proceed to its fullest possible extent, the more profitable intensification alternatives would have a considerable impact on labor returns.

CONCLUSIONS

Intensification plans of the type examined in this study offer significant possibilities for improving labor earnings on small farms in the Broadview area of southeastern Saskatchewan. However, the greatest single contributing factor to improved labor income lies in the possibilities for small farms to expand their cultivated acreage within the existing farm by the clearing and breaking of arable pasture land. Given this expansion measure, other management practices can be introduced with significant effects.

However, it cannot be generalized from this study that intensification is even a short-term solution to the income problems of all small farms. The study results have applicability only to an area that has farms with the potential to expand their land base from within before applying other intensification alteratives. Generalization on the study findings to a much larger area, to the extent that demand and supply functions for most agricultural products are inelastic, would be largely self-defeating. Price shifts must be taken into account when applying such results to a greater portion of the aggregate production situation.

Linear programming procedures are particularly adapted to selecting and evaluating a large number of possible production organizations available for an optimum resource combination. The technique selected alternatives on the basis of their income producing ability (MVP's), thus allowing for the placing of priorities when capital is available only in scarce quantities.

The variable resource feature of the technique was useful in determining the limits to which income improvement could proceed before additional capital use became unprofitable, or before a particular production factor became restrictive on the income improving process. The rigid nature of the mathematical model restricts its usefulness to short-term analysis unless more of the fixed capital is placed in a variable form. Long-term adjustments (the influence of technical changes and managerial improvement) were not built into the model developed for the study.

NOTES AND REFERENCES

(*1*) Gartner, G. J., *An Economic Appraisal of Agricultural Development and Adjustment Possibilities for a Low Income Farm Area;* Unpublished M.Sc. Thesis, Department of Agricultural Economics, University of Saskatchewan, 1966.

(*2*) For more detailed information see: *Summary Report of the Survey of Farmers and Their Families in the Broadview Area*, Economics and Statistics Branch, Saskatchewan Department of Agriculture, Regina, October 1964.

(*3*) Based on findings of: *Wasteland Utilization Study: Kipling Area*, Unpublished Report, Department of Agricultural Economics, University of Saskatchewan, Saskatoon, Saskatchewan, 1964.

CANADIAN GRAINS POLICY

Sales of grain crops account for a significant portion of the total cash receipts of Canadian farmers. Returns from grain crops averaged 27.5 per cent of total farm cash receipts during the 1961-65 period, and preliminary estimates of farm cash receipts for 1966 show grain crops at $1.1 billion or 29.2 per cent of total farm cash receipts of $3.8 billion.

Grain crop production is susceptible to annual fluctuations because of variations in moisture reserves and climatic conditions. Canadian grain prices are affected by supplies and demand throughout the world. The Federal Government became involved in grain marketing when it attempted to eliminate some of the extreme fluctuations in grain prices caused by imbalances between supplies and demand in international markets. The various features of Canadian grain policy have been developed to encourage efficient production, orderly marketing and the maintenance of high quality in order to provide continuing income from grain and at the same time to minimize instability.

When considering cereal production in Canada, the subject falls naturally into two broad groupings. There are, first and foremost, the grains grown in those areas of Western Canada designated by the Canadian Wheat Board Act and second, grains grown in all other areas of Canada. All but a small fraction of the grains entering into interprovincial and export trade are produced in the provinces of Manitoba, Saskatchewan and Alberta, and parts of northwestern Ontario and British Columbia. Wheat, oats and barley produced in this area come under the control of the Canadian Wheat Board. Wheat Board grains account for over 80 per cent of the production of these grains in Canada. Rye, flaxseed and rapeseed produced in this area come under Wheat Board control only as to delivery quotas and delivery to elevators and railway-cars.

PRICES TO PRODUCERS

Initial payments on the basic grades of wheat, oats and barley delivered to the Canadian Wheat Board are established each crop year by the Government, having regard to current and prospective market demand and prices, and to any other circumstances which may render a specific level of initial payments advisable. When the producer delivers his grain to the country elevator, he receives the initial payment less handling and storage charges at the country elevator (4½¢ a bushel for wheat and barley, and 3½¢ a bushel for oats) and less transportation charges to Fort William-Port Arthur or Vancouver (about 15¢ a bushel from a mid-Prairie point).

At the same time, the producer receives a certificate which provides a detailed record of the grain delivered to the Board. After the wheat, oats and barley delivered during the crop year have been marketed by the Canadian Wheat Board, the Board's expenses and what the farmers have received as an initial payment are deducted and the proceeds are distributed in the form of a final payment, on the basis of the records of the quantities and grades of grain delivered by each producer.

TABLE 1—CANADIAN WHEAT BOARD INITIAL AND TOTAL PAYMENTS PER BUSHEL, BASIS IN STORE FORT WILLIAM –PORT ARTHUR, CROP YEARS 1960–61 TO 1966–67

Crop Year (August 1–July 31)	Payment	No. 1 Manitoba Northern Wheat	No. 3 C.W. Six-Row Barley	No. 2 C. W. Oats
			dollars per bushel	
1960-61	Initial	1.40	0.96	0.60
	Total	1.795	1.045	0.742
1961-62	Initial	1.50	0.96	0.60
	Total	1.910	1.280	0.772
1962-63	Initial	1.50	0.96	0.60
	Total	1.874	1.132	0.718
1963-64	Initial	1.50	0.96	0.60
	Total	1.974	1.178	0.692
1964-65	Initial	1.50	0.96	0.60
	Total	1.887	1.260	0.772
1965-66	Initial	1.50	0.96	0.60
	Total	1.997	1.286	0.845
1966-67	Initial	1.50	0.96	0.60
	Total	—	—	—

The initial payments are, in effect, Federal Government guaranteed floor prices as any deficit incurred by the Board in its marketing operations is paid by the Federal Government. However, the initial payments in the last 25 years have always been below the prices realized by the Board, except in 1956-57 when the Government paid about $2 million to cover the Board's deficit in the marketing of oats. Initial and final payments per bushel are shown in Table 1 for the crop years 1960-61 to 1966-67.

Wheat, oats and barley produced in all areas outside the Canadian Wheat Board area are eligible for price support under the Agricultural Stabilization Act. This Act, which became effective in January, 1958 for the purpose of "stabilizing prices of agricultural commodities, and assisting the agriculture industry to realize fair returns for its labor and investment", provides for price support at not less than 80 per cent of the average of the prices in the preceding 10 years. Table 2 shows the support levels of wheat, oats and barley in effect in each year from 1960-61 to 1966-67.

TABLE 2—PRICE SUPPORT LEVELS FOR GRAINS UNDER THE AGRICULTURAL STABILIZATION ACT, 1960–61 TO 1966–67

Marketing Year (July 1 - June 30)	Wheat	Oats	Barley
	No. 2 Canada Eastern Grade or better		
	dollars per bushel		
1960-61	1.39	0.57	0.79
1961-62	1.39	0.57	0.76
1962-63	1.39	0.56	0.75
1963-64	1.39	0.55	0.76
1964-65	1.28	0.56	0.77
1965-66	1.32	0.56	0.80
1966-67	1.34	0.57	0.83

AIDS TO PRODUCTION

Government aid to cereal production takes the form of providing research facilities, drought assistance, rural rehabilitation, and the provision of farm credit.

Through the facilities of the federal and provincial governments, the universities, colleges, agricultural schools and private research organizations, the Canadian grain industry has received valuable assistance in solving a multitude of problems relating to the development, production, marketing and processing of grains. Examples of this type of aid are the propagation, testing and rapid multiplication for commercial use of new, high quality, quick-maturing, disease-resistant varieties of grain; the sampling, testing, grading, standardization and classification of western grains each year, and the rapid dissemination of this information to interested parties. This continuing research has been the main factor behind the high quality achieved by Canadian grains and the efficient marketing of such grains throughout the world.

Drought relief and assistance in cases of crop loss are provided by two Federal Government Acts—the Prairie Farm Assistance Act and the Crop Insurance Act. The Prairie Farm Assistance Act, which has been in operation since 1939, is designed to aid farmers in the Wheat Board area who suffer low crop yields because of drought and other factors beyond their control. Under this Act, farmers contribute annually to a fund on the basis of a one per cent levy on grain sold by them to the Canadian Wheat Board. The fund is used to make payments to farmers in drought areas. Farmers become eligible for assistance if the average yield of wheat in their township falls below certain levels. Payments, ranging from $2.00 to $4.00 an acre, may be made on one-half of a farmer's cultivated acreage of all crops up to an area of 200 acres. Total payments have averaged $19 million during the last 10 years. Annual receipts from the one per cent levy on grain sales by farmers have averaged about $7 million in this period. Farmers covered by the Crop Insurance Act (see below) are not eligible for participation in the Prairie Farm Assistance Act.

The Crop Insurance Act was passed by the Federal Government in 1959 to assist the provinces in making low-cost crop insurance available to farmers across Canada. The federal and provincial governments pay all administration costs, contribute to premiums and provide that premiums will, on the average, equal indemnities. The crop insurance programs are developed by the provinces in accordance with the Crop Insurance Act and Regulations of the Federal Government. Each province is responsible for the administration of the program and may determine the crops to be insured, the level of coverage and the premiums payable.

The Federal Government pays 50 per cent of the province's administrative costs and reimburses the province for payment of up to 25 per cent of the producers' total premiums. The Act also provides for re-insurance by the Federal Government or the granting of interest-free loans to provincial crop insurance agencies in the event of extremely heavy losses in the initial years of the program. Provincial crop insurance programs for grain producers are in operation in Alberta, Saskatchewan, Manitoba and Prince Edward Island. An insurance plan for winter wheat producers in Ontario is in operation beginning with the 1966-67 crop. Although crop insurance is not yet available to all grain producers on the Prairies, it is being extended to new areas each year.

It has been found over the years that short-term relief from crop disasters and drought needs to be supplemented by longer-term programs if farm incomes are to be stabilized. The long drought of the 1930's pointed up the need for a federal program of land rehabilitation and utilization, water storage and resettlement in the Prairie Provinces. This need gave rise to the Prairie Farm Rehabilitation Act in 1935 which provided for the rehabilitation of drought and soil drifting areas. The program carried out under this Act has since expanded to include irrigation projects and the development of community pastures. The Federal Government passed the Agricultural Rehabilitation and Development Act in 1961. Its objective is to help the low-income farmer by setting up rural rehabilitation and development programs across Canada conducted on a joint basis with provincial governments or agencies. Three main types of projects are outlined in this Act as follows:

(i) Projects for the alternative use of marginal and submarginal lands,

(ii) Projects to ensure the development of income and employment opportunities and to improve standards of living in rural areas, and

(iii) Projects for the development and conservation of water supplies and for soil improvement and conservation.

The Federal Government provides long-term credit to farmers in all sectors of the industry through the Farm Credit Act. Under this Act, farmers may borrow from the Farm Credit Corporation, up to $40,000 or 75 per cent (whichever is the lesser) of the appraised value of farm lands and buildings for the purchase of land, buildings, machinery, fertilizers, seed, and basic herd livestock. If the borrower is between 21 and 45 years of age and accepts government supervision of his farming operations the maximum is raised to $55,000. The repayment period is 30 years.

Intermediate and short-term credit is made available under the Farm Improvement Loans Act. The chartered banks make the loans and the Federal Government guarantees against loss up to a specified maximum. The maximum amount of a loan is $15,000 and the repayment period varies according to the type of loan, subject to a limit of 10 years. These loans are mainly for the purchase of farm machinery, equipment, and livestock. In 1964, Parliament passed the Farm Machinery Syndicates Credit Act. Under this legislation loans are available from the Farm Credit Corporation to groups of three or more farmers who wish to purchase farm machinery on a co-operative basis. The syndicates may borrow up to 80 per cent of the cost of the machinery to a maximum of $15,000 a member or a total of $100,000 a syndicate, whichever is the lesser amount.

MARKETING ORGANIZATIONS

Because of the importance of grain in the economy of the Prairie Provinces of Canada, and the high proportion entering the export trade, the Government of Canada has enacted special legislation related to the marketing of grain. The objective of this legislation is to provide machinery for the grading and inspection of grain and for the orderly marketing in both the domestic and export trade of wheat, oats and barley produced in Western Canada. To carry out these objectives, two major agencies have been set up, namely, the Board of Grain Commissioners and the Canadian Wheat Board.

The Board of Grain Commissioners is set up under, and is responsible for the administration of the Canada Grain Act. The major activities and responsibilities of the Board include the inspection, grading, weighing and registration of grain; the maintenance of statistical and research facilities; and the constitution of the Grain Standards Committee, which selects and settles the standards for the various grades of grain. The Board's "certificate final" is universally accepted as proof of grade with a resultant effect on Canada's ability to export grain.

The Canadian Wheat Board is established under the Canadian Wheat Board Act of 1935 which defines the object of the Board as the "marketing in an orderly manner, in interprovincial and export trade, of grain grown in Canada". In carrying out this function the Board undertakes to market, on behalf of producers, wheat, oats and barley grown in the designated area of Western Canada and offered by producers for sale. Since 1943, the Canadian Wheat Board has controlled the disposition of about 99 per cent of the wheat marketed commercially in Canada. It has purchased from the grower since 1949, an only slightly lower percentage of the barley and oats entering into interprovincial or export trade. The Board sells this grain acquired under its operations for such prices as it considers reasonable with the object of promoting the sale of grain produced in Canada in world markets.

GOVERNMENT STOCK POLICY

The Canadian Wheat Board does not own or operate facilities of any kind for the storage or handling of grain. It does, however, direct the movement of producers' grain, in the domestic and export markets, through the members of the established grain trade who act as agents of the Board. The facilities owned by private and co-operative elevator companies are utilized for the purchase, storage and shipment of grain delivered by producers, and a handling agreement is negotiated between these companies and the Board, setting out the conditions under

which the operations are conducted for Board account. Similarly, members of the trade who are shippers and exporters act as agents of the Board under a negotiated agreement. In this capacity they are responsible for the forwarding of grain to eastern elevators and export terminals where it is held for Board account pending sale to domestic or export markets.

An integral part of the orderly marketing system for grain, particularly in periods when the available grain supplies offered by producers are in excess of commercial storage and handling facilities, is the delivery quota system. This is the means adopted by the Wheat Board to give producers in all regions of the designated area the largest possible equity of delivery opportunity and access to the nation's storage facilities. At the beginning of the crop year, the Board allows an initial delivery quota, which permits every permit holder to market a specified quantity of wheat, oats or barley, regardless of his acreage, before deliveries under the acreage quota become effective. This policy was instituted to provide all producers with the opportunity of marketing a quantity of grain to meet current cash requirements early in the crop year.

The Canadian Wheat Board's general delivery quota is based on a producer's specified acreage, a term which refers to the combined acreage which the producer has seeded to wheat (including durum), oats, barley, rye and cultivated forage crops, or has summerfallowed. Under this quota the producer is at liberty to deliver an authorized number of bushels of either wheat, oats, barley or rye, or any combination of these grains per specified acre. Flaxseed and rapeseed are marketed under individual quotas based on the acreage sown to these grains. Supplementary delivery quotas on a per seeded acre basis are sometimes authorized in order to move certain kinds of grain into position to meet Canadian Wheat Board sales commitments. In order to regulate the delivery of grains by producers, within the quotas authorized, the Board issues delivery permit books each year to producers in Western Canada. These permit books (about 200,000 are issued) are used for the recording of all commercial deliveries of wheat, oats, barley, rye, flaxseed, and rapeseed.

The Prairie Grain Advance Payments Act which went into effect in November, 1957 authorizes the Canadian Wheat Board to make interest-free cash advances on farm stored grain to producers in Western Canada during any crop year. Producers unable to make deliveries due to the lack of country elevator storage space and hence unable to receive their initial payment are eligible for advance payments under this Act. The advances amount to $0.50 a bushel for wheat, $0.20 a bushel for oats, and $0.35 a bushel for barley, not to exceed a quota of six bushels a specified acre up to a maximum per producer of $3,000. This advance is repaid from grain deliveries made as elevator space becomes available.

In March, 1956 the Federal Government passed the Temporary Wheat Reserves Act, ". . . to relieve producers of burdensome storage charges on wheat in commercial storage . . .". The Act provides for the payment of storage and interest costs on Canadian Wheat Board stocks of wheat in commercial storage in excess of 178 million bushels at the commencement of the crop year. The average commercial carryover for the 15 years prior to the 1951-52 crop year was 178 million bushels and stocks were considered to be at a "normal" level in this period. This policy will expire when stocks at the beginning of a crop year are less than 178 million bushels. The carryover in excess of 178 million bushels and payments from the federal treasury to the Canadian Wheat Board each crop year since the inception of this Act are given in Table 3.

TABLE 3—CARRYING CHARGES PAID BY THE GOVERNMENT OF CANADA TO THE CANADIAN WHEAT BOARD UNDER THE TEMPORARY WHEAT RESERVES ACT, CROP YEARS 1960–61 TO 1966–67

Crop Year (August 1 - July 31)	Licensed Storage Capacity	Number of Bushels in Excess of 178 Million at August 1	Carrying Charges Paid by Government
	thousand bushels		dollars
1960-61	640,493	276,830	50,430,619
1961-62	649,309	262,348	47,974,285
1962-63	643,768	145,857	28,897,431
1963-64	680,466	237,603	44,933,537
1964-65	669,224	149,585	28,567,652
1965-66	675,679	217,521	40,926,234
1966-67	677,758	127,555	24,294,357

MEASURES AFFECTING FOREIGN TRADE IN GRAINS

Since 1941 the Federal Government has paid a portion of the freight charges on Prairie grains used in the other provinces for livestock and poultry feed. In recent years, this assistance has averaged about $19.5 million annually. Freight assistance is payable only on feed grain fed in Canada.

GENERAL COMMERCIAL POLICY

Since Canada's prosperity is largely dependent on her foreign trade, Canadian commercial policies are aimed at expanding and diversifying that trade. Canada is a firm supporter of the principles of trade liberalization and multilateralism and in this regard has been a member of, and has played an active role in the International Wheat Agreement since its inception. Total exports to all destinations of Canadian

wheat, flour, oats, barley and rye in each of the last six years are shown in Table 4.

TABLE 4—TOTAL EXPORTS OF CANADIAN GRAINS, CROP YEARS 1960-61 TO 1965-66

Crop Year (August 1-July 31)	Wheat and Wheat Flour	Oats	Barley	Rye
		thousand bushels		
1960-61	353,249	2,680	47,178	2,613
1961-62	358,022	3,454	42,909	4,363
1962-63	331,367	21,700	15,377	7,310
1963-64	594,548	18,759	46,935	5,501
1964-65	399,434	15,551	37,032	4,858
1965-66	582,822	15,922	38,028	8,049

Wheat, oats and barley are sold by the Canadian Wheat Board for export either through its agents or on the basis of a direct agreement between the Board and the foreign government or a government agency as purchaser of the grain. The Board sets its price for various grades of wheat daily. Wheat is quoted for export basis in store Fort William-Port Arthur, Churchill and Vancouver terminal positions and c.i.f. Atlantic, St. Lawrence, Baie Comeau, Seaway and Lake Ports and separate prices may be established for each of these positions at the same time. Sales of wheat for domestic use are made at the same price level as sales to International Wheat Agreement members and to all other destinations (Class II prices). There is no wheat futures market in Canada.

The Board's operations relating to the marketing of oats and barley are less extensive than those relating to wheat. These two grains are sold in store at the terminal elevators at Fort William-Port Arthur and Vancouver. Oats and barley are marketed either on a cash basis at prices quoted daily by the Board or on the basis of trading in futures on the Winnipeg Grain Exchange. The Board does not control the movement of coarse grains from the Lakehead to Eastern Canada and the private trade is solely responsible for the movement of oats and barley out of Fort William-Port Arthur and Vancouver.

Voluntary co-operatives have, since the early years of this century, played a very important role in the marketing of Canada's export grains, particularly wheat. They still buy, store and sell "other" grains for their own account but for "Wheat Board" grains they act only as agents of the Wheat Board. In addition to voluntary co-operatives, agricultural producers in some instances market their products through their own boards (excluding Canadian Wheat Board grains). When a poll of producers has shown their desire to market co-operatively, a producers' board may be established under provincial legislation. Marketing through the board then becomes compulsory for all producers of that product within that province. At present the only grains marketed in this manner are seed corn and wheat in Ontario under the Ontario Farm Products Marketing Act.

The Canadian Wheat Board's general pricing policy permits the use of deferred pricing on export sales of wheat at the discretion of the purchaser. Since there is no futures market for wheat in Canada, this measure lends flexibility to the Board's pricing and provides a degree of hedging for the buyer. Under this policy, settlement may be made at prices prevailing on any day, up to the maximum number indicated below, after the final delivery date of the contract for the respective ports of shipment.

(a) After date of calling

Fort William-Port Arthur	14	market days
Georgian Bay ports	13	"
Goderich, Sarnia and Walkerville	12	"
Port Colborne and Humberstone	11	"
Toronto	10	"
Kingston and Prescott	9	"
Churchill	9	"
St. Lawrence ports and Canadian Atlantic	8	"
Fort William-Port Arthur to Prescott	8	"

(b) After date of completion of loading

For exports out of Pacific coast ports the period is conditioned by the destination. For destinations west of the Panama Canal but including South America, Central America and the Caribbean areas, up to 15 market days. For areas east of the Panama Canal with the exception of South America, Central America and the Caribbean areas, up to 22 market days after date of completion of loading.

An "accounting price" is established at the time of call or delivery but the final price may be fixed by the purchaser within the time limits set out above. If the purchaser does not declare his option prior to the expiry date, the market price prevailing on that date is automatically used in finalizing the sale.

EXPORT AIDS

Since 1952 the payments on exports of Canadian cereals on credit terms have been insured by the Export Credits Insurance Corporation (a government agency). The E.C.I.C. can insure cereal sales only with the specific authorization of the Government.

The Government is currently authorizing such coverage for sales of wheat to Bulgaria, Czechoslovakia, Hungary and Poland. The maximum credit terms offered are 10 per cent cash and the balance in 24, 30 and 36 months. In addition, the Canadian Wheat Board sells to Mainland China and East Germany on credit terms of 25 per cent cash and the balance in 18 months. These terms are made possible by a direct Canadian Government guarantee to chartered banks in Canada on loans made for this purpose to the Canadian Wheat Board.

TABLE 5—EXPORTS OF CANADIAN WHEAT AND FLOUR ON CREDIT, CROP YEARS 1961–62 TO 1965–66

Crop Year (August 1-July 31)	Exports Under Export Credit Insurance Corporation	Exports Under Canadian Wheat Board Credit
	thousand bushels	
1961-62	12,294	82,120
1962-63	22,498	56,444
1963-64	30,402	44,982
1964-65	54,484	77,917
1965-66	20,843	90,246

IMPORT POLICIES

Canada has a three-column tariff schedule: British Preferential, Most Favored Nation and General. Tariff rates currently in effect for wheat, oats, barley, rye and corn imports are listed in Table 6.

TABLE 6—TARIFF RATES: WHEAT, OATS, BARLEY, RYE, CORN—CANADA, 1966–67

Commodity	British Preferential	Most Favored Nation	General
		dollars per bushel	
Wheat	Free	0.12	0.30
Oats	Free	0.04	0.16
Barley	Free	0.08	0.25
Rye	Free	0.06	0.15
Corn	Free	0.08	0.20

To ensure that Canadian-produced grain has first call on Canadian storage facilities, any grain imported into Canada that is to enter into storage must have a storage permit issued by the Board of Grain Commissioners for Canada. Under normal storage conditions, this regulation does not prohibit imports of grain. By authority of regulations under the Canadian Wheat Board Act, import permits are required from the Wheat Board for the importation of wheat, oats or barley, and the more important products manufactured from those cereals. Also, imports of grains and grain products are subject to a number of sanitary and health regulations, mainly under the Animal Contagious Diseases Act.

CANADIAN FOOD AID

Canada presently provides wheat and flour under several programs to a number of countries particularly in Southeast Asia. Under the bilateral Food Aid Program, Canada has greatly increased aid shipments in the last few years from $12.6 million in the fiscal year ended March 31, 1962 to $88.8 million in 1966-67. Much of this increase has been due to the larger shipments to India to meet the emergency situation in that country. Along with India, in the crop years 1961-62 to 1965-66, Pakistan, Burma, Ceylon, Indonesia and Vietnam all received wheat and flour under the program.

Canada participates in the F.A.O.-U.N. World Food Program and pledged $7.4 million to the program in the 1963-1965 period of which about $1.5 million was used to provide wheat and flour. A total of $27.5 (U.S.) million has been pledged by Canada for the 1966-1968 period and a much larger proportion will be used for the provision of wheat and flour than in the first three years of the program. In the first three years, a total of 515,000 bushels of Canadian wheat and flour was shipped under instructions from the World Food Program to Ceylon, Ethiopia, Korea, Taiwan, Jordan, Guyana, Syria and Honduras. To the end of April in the 1966-67 crop year, shipments of Canadian wheat and flour to Korea, Algeria, India, Pakistan, Morocco, Turkey and Guyana under the current program totaled 3,588,000 bushels.

Canada also contributes about $700,000 worth of flour to the United Nations Relief and Works Agency each year. The total amount of Canadian wheat and flour allocated to foreign aid in recent years is outlined in Table 7.

Canadian Government policy on grains, does not operate to impose patterns of production, specific production goals or objectives. The aim is to maintain flexibility in production and encourage voluntary adjustments on the part of farmers to changing economic conditions and grain markets. To this end,

Government policy endeavors to maintain a fully operative and effective grain marketing, handling, storage and shipping system and a system of grading designed to maintain Canada's reputation for high quality grain crops. In addition, Canada endeavors to co-operate with other countries in world problems affecting grains and in food aid programs.

FOOTNOTE

This article which was originally prepared for the use of the Food and Agriculture Organization of the United Nations, is the result of the work of many individuals in several Federal Government Departments.

TABLE 7—CANADIAN WHEAT AND FLOUR FOR FOREIGN AID PROGRAMS, CROP YEARS 1961–62 TO 1966–67

Crop Year (August 1-July 31)	Canadian Multi-lateral Food Aid Program	World Food Program	U.N.R.W.A.	Total
		thousands of bushels		
1961-62	6,500.0	—	653.0	7,153.0
1962-63	1,300.0	—	477.0	1,777.0
1963-64	2,500.0	38.2	250.2	2,788.4
1964-65	11,400.0	236.5	173.3	11,809.8
1965-66	29,200.0	239.9	331.5	29,771.4
1966-67	23,284.7[a]	3,587.6[a]	331.5	27,203.8[a]

[a] Covers the period August 1, 1966 to April 30, 1967.

POLICY AND PROGRAM DEVELOPMENTS

Department of Agriculture Appointments—Dr. R. Poirier, Dean of Agriculture at Laval University, and Mr. W. E. Jarvis, Deputy Minister of Agriculture and Conservation for Manitoba, have been appointed Assistant Deputy Ministers of the Canada Department of Agriculture. Dr. Poirier will be Assistant Deputy Minister responsible for the Economics Branch, broad agricultural policy study and development, and for co-ordinating departmental responsibilities in a number of international programs. Mr. Jarvis becomes Assistant Deputy Minister responsible for the Production and Marketing Branch and the Health of Animals Branch. (March 14, 1967)

Dairy Commission Appointments—Mr. D. B. Goodwillie, Director of the Dairy Division of the Canada Department of Agriculture, and Mr. A. O. Blouin, a Branch Manager of the Bank of Nova Scotia, have been appointed respectively Director of Marketing and Secretary-Treasurer of the Canadian Dairy Commission. (March 20, 1967)

Crop Insurance—By Order-in-Council, agricultural crops declared to be crops for the purpose of the Crop Insurance Act have been extended to include mustard, prunes, strawberries, grapes, tomatoes, a wide range of green vegetables, and forage. The Director General, Economics Branch, Canada Department of Agriculture, is empowered to approve the method by which the average yield of any insured crop in any area, or on any farm in any area, shall be calculated and determined. (March 22, 1967)

Ontario Milk Marketing Order—The authority of the Ontario Milk Marketing Board to collect levies, under the Agricultural Products Marketing Act, at the rate of 5¢ for each 100 pounds of milk marketed, has been extended by Order-in-Council to March 31, 1968. (April 4, 1967)

Dairy Support Program—Details of the national price stabilization and subsidy program for 1967-68, announced by the Canadian Dairy Commission, include increases of 4¢ and 2¢ to 63¢ and 20¢ a pound respectively in the prices which the Commission is prepared to pay, on an offer-to-purchase basis, for first grade creamery butter and spray-processed skim milk powder, and a gross rise of 36¢ to $1.21 per 100 pounds of milk, testing 3.5 per cent butterfat, in direct payments to producers of manufacturing milk. The objective of the new dairy program is to bring the average gross return to approximately $4.75 per 100 pounds of milk for manufacturing, compared with $4.10 in 1966-67. The average net return in 1967-68, after a deduction of 11¢ per 100 pounds (10¢ in 1966-67) for export equalization purposes, will be approximately $4.64 per 100 pounds. (April 14, 1967)

Pigmeat Exports to Britain—The United Kingdom has removed virtually all restrictions on the importation from Canada of pork products. Canadian exporters can now compete in the British market in the supply of all canned and cured products such as hams, pork luncheon meat, and sliced bacon, and no limitation will be applied to shipments of frozen, chilled or processed pork. Before World War II, Canada was a major supplier of pigmeat to the United Kingdom, but prohibition on imports of these products was introduced by Britain in the early post-war years for balance of payments reasons. (April 28, 1967)

Agricultural Fairs and Exhibitions—Under an amendment to the Exhibition Grants Regulations, the list of Class B exhibitions may now include two or more small exhibitions which amalgamate for the purpose of holding a larger fair, provided the combined amount paid in prize money on agricultural exhibits is not less than $3,000 a year.

Fairs or exhibitions which fail, for two consecutive years, to pay the minimum annual amounts necessary to qualify for grants may be deleted from the lists of approved exhibitions. An exhibition may, however, be re-entered on a list if there is satisfactory evidence that the required prize money has been expended during the immediate preceding year. (May 4, 1967)

Nova Scotia Broiler Chicken Marketing Order—The Nova Scotia Broiler Chicken Marketing Board is authorized to regulate the marketing of broiler chickens in interprovincial and export trade and for such purpose may, with respect to persons and property situated in the Province of Nova Scotia, exercise all or any powers like those already held for the marketing of broiler chickens within Nova Scotia. (May 4, 1967)

Potato Price Stabilization Order, 1966—The Agricultural Stabilization Board has been authorized, by Order-in-Council, to make payments to potato producers for the purpose of stabilizing the price of potatoes delivered from the 1966 crop after March 21, 1967, and which meet specified grade standards. When the potatoes are used for starch manufacture, the Board will pay $1.20 a barrel for deliveries during March and April 1967, and $1.25 a barrel for deliveries on or after May 1, 1967. Where potatoes are supplied for other approved non-food uses, the Board will pay producers at the rate of 75¢ a hundredweight.

The Board has established a base price for potatoes of $1.55 a hundredweight to producers. The payments now prescribed are equivalent to approximately 65 per cent of the base price.

No payment will be made on deliveries in excess of 1,000 barrels per producer. (May 4, 1967)

PUBLICATIONS

ECONOMICS BRANCH PUBLICATIONS

An Inventory of Agricultural Economics Research in Canada, 1964 to 1966, Stutt, R. A., Economics Branch, Canada Department of Agriculture, Ottawa. February, 1967. Pub. 67/3. pp. vi + 99 + 2.

This is a catalogue of 369 research projects in the field of agricultural economics commenced or completed by federal, provincial, university or private agencies between January 1, 1964 and July 1, 1966. A total of 186 were in progress when the survey was made. Fifty research agencies were contacted. The projects are classified into seven major categories with the first four broken down into 14 subcategories.

Provincial Agricultural Legislation in Western Canada, 1966. Economics Branch, Canada Department of Agriculture, Ottawa. February 1967. Pub. 67/2. pp. iv + 108.

This publication summarizes agricultural legislation on the statute books of British Columbia, Alberta, Saskatchewan and Manitoba as of August 1966.

UNITED NATIONS PUBLICATIONS

Available in Canada from the Queen's Printer, Ottawa.

World Crop Statistics, Area, Production and Yield, 1948-64. Food and Agriculture Organization of the United Nations, Rome. 1966. pp. vi + 458.

A long-term statistical series for all crops on which data are published annually in the F.A.O. "Production Yearbook".

World Grain Trade Statistics, 1965-66. Food and Agriculture Organization of the United Nations, Rome. 1966. pp. 75.

A statistical analysis of world exports and imports of grains by type and trade season; grain exports by source and destination; the trade in grains of the U.S.S.R., China and eastern European countries; trade in grains by regions and selected countries, and details of international grain trade contracts.

OTHER PUBLICATIONS

Not Available from Economics Branch

Farming In Canada, Information Division, Canada Department of Agriculture, Ottawa. 1966. Publication 1296. pp. 60.

A general review of farming in Canada, outlining the physical and social conditions under which it is carried out; the various types of production; the means by which farm products reach the consumer; federal government assistance to farmers, and steps taken to safeguard the quality of the nation's food supply.

The Blueberry Industry: The Role of A.R.D.A., A.R.D.A. Condensed Report CR-No. 5. Information and Technical Services Division, Department of Forestry and Rural Development, Ottawa. June, 1966. pp. 29.

A summary of research reports and project proposals concerning the blueberry industry in Canada, submitted to the A.R.D.A. administration by research consultants and provincial A.R.D.A. authorities.

The Transportation of Feed Grains in Eastern Canada, Walker, Hugh V., Agricultural Research Council of Canada, Publication No. 8. February 1967. pp. xviii + 86. Price, $2.00.

An analysis of the transportation pattern, freight rates and costs associated with the interregional transfer of Western feed grains to Eastern Canada.

The Role of Religion in Social and Economic Development, Rogers, Walter B., Associate Professor, Department of Agricultural Economics and Sociology, University of Alberta, Edmonton. Agricultural Economics Special Report No. 4. January 1967. pp. i + 14.

This report discusses the power of religious culture to influence social, political and economic activities; the role of religion in working with individuals, in community development and in promoting special services; government and church co-operation, and the future role of religion.

World Population and Distribution of Food, Rogers, Walter B., Associate Professor, Department of Agricultural Economics, University of Alberta, Edmonton. Agricultural Economics Special Report No. 5. February 1967. pp. i + 20.

An examination of world population growth in relation to food resources; of rural and urban population trends, and of agricultural productivity in developed and underdeveloped countries.

Proceedings of Meeting of the Canada Agricultural Manpower Committee, Ottawa, March 16, 1967. pp. iii + 23.

This report deals with the current agricultural manpower situation and outlook; the movement of agricultural workers in Canada; the employment of Indian and Caribbean workers in Canadian agriculture; agricultural labor training, and the federal-provincial agricultural manpower agreement.

Outlook for Saskatchewan Agriculture, 1967, Economics and Statistics Branch, Saskatchewan Department of Agriculture, Regina. pp. 20.

An assessment of the prospects for Saskatchewan agriculture, by commodities and enterprise, for the purpose of assisting farmers to plan their production programs.

The Farm Labor Problem, Ontario Department of Agriculture and Food, 1967. pp. ii + 55.

A report of proceedings of the fifth annual conference on "The Farm Labor Problem," presented by the Division of Economics and Farm Management, Ontario Department of Agriculture and Food, at the Kemptville Agricultural School in February 1967.

1965 Alberta Hog Enterprise Analysis, Hackett, B. A. and A. R. Reddon, Economics Division and Animal Industry Division, Alberta Department of Agriculture, Edmonton. 1967. Publication No. 816-440-1. pp. 40.

A study of the 1965 returns and costs of 30 hog farrow-to-finish and eight hog-feeding enterprises, situated in the black and thin black soil zones of Alberta.

1965 Alberta Cow-calf Enterprise Analysis, Hackett, B. A. and H. B. Jeffery, J. S. Lore and P. J. Martin, Economics Division and Animal Industry Division, Alberta Department of Agriculture, Edmonton. 1966. Publication No. 816-420-2. pp. 40.

An analysis of the returns and costs of 94 cow-calf enterprises in Alberta in 1965. The enterprises studied ranged in size from 11 to 234 cows wintered.

Motor Vehicles and Machinery on Farms, 1958 Farm Survey Report No. 3, Agriculture Division, Dominion Bureau of Statistics, Ottawa. April 1967. Cat. No. 21-510. pp. 104. Price $1.50.

A statistical report of the numbers, values, operation and operating expenses of farm machinery and equipment, presented in two levels of classification and compiled from the 1958 Survey of Farm Expenditures and Income.

The Kimberley Area—An Economic Survey, Bureau of Economics and Statistics, Department of Industrial Development, Trade and Commerce, Victoria. March, 1967. pp. 78.

An economic study of the Kimberley area in the province of British Columbia, with particular emphasis on those sectors in which a potential for new growth or diversification appears to exist.

Northeast New Brunswick, Federal-Provincial Rural Development Agreement, Department of Forestry and Rural Development, Ottawa. 1966. pp. 39.

This publication contains the text of an agreement between the Government of Canada and the Government of New Brunswick for a comprehensive rural development plan for Northeast New Brunswick. A program guide, giving background data and details of various projects to be implemented under the plan, is also included.

STATISTICAL APPENDIX

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1966–67

Commodity, grade and market	1966			1967			
	Average	Mar.	Apr.	Jan.	Feb.	Mar.	Apr.
			dollars per cwt.				
CATTLE (weighted average prices at public stockyards)							
Good slaughter steers							
Toronto	25.85	27.12	25.99	27.50	27.50	26.70	26.00
Winnipeg	25.15	25.99	25.65	25.78	26.06	25.56	25.33
Calgary	24.50	25.22	25.10	25.61	25.23	24.50	24.15
Good feeder steers							
Toronto	27.70	28.11	28.00	28.00	28.00	28.00	28.02
Winnipeg	25.55	26.54	26.20	26.00	26.14	25.93	26.15
Calgary	24.90	26.10	26.00	25.54	25.39	25.82	25.89
Good and choice veal calves							
Toronto	34.95	36.55	34.20	38.40	37.28	38.73	37.95
Winnipeg	34.35	34.61	33.42	41.10	40.80	39.44	38.61
Edmonton	28.20	32.35	32.02	29.88	33.79	36.25	36.08
HOGS (weighted average prices at public stockyards, Grade A dressed)							
Toronto	35.90	36.12	32.90	32.31	33.39	31.69	29.93
Winnipeg	34.45	35.05	31.64	29.70	30.37	28.90	27.60
Calgary	33.50	33.42	29.68	28.05	28.80	27.00	26.32
LAMBS (weighted average prices at public stockyards, Good lambs)							
Toronto	26.50	31.67	30.35	25.90	25.84	25.45	29.13
Winnipeg	21.85	26.00	27.49	21.23	21.50	21.50	21.50
Calgary	22.00	27.22	26.43	19.60	19.61	19.41	19.36
FLUID MILK (f.o.b. factory)							
Halifax	6.00	5.71	6.10	6.10	6.10	6.10	6.10
Montreal	5.41	5.35	5.35	5.55	6.00	6.00	6.00
Toronto	5.52	5.29	5.29	5.57	5.75	5.75	5.75
Winnipeg	5.34	5.20	5.20	5.48	5.48	5.48	—
Vancouver	6.59	6.47	6.53	6.75	6.74	6.74	6.77
MANUFACTURING MILK (average farm value)[a]							
Nova Scotia	2.94	2.68	2.65	3.03	3.08	—	—
New Brunswick	3.19	3.12	3.10	3.30	3.29	—	—
Quebec[b]	3.08	3.40	2.98	3.12	3.14	—	—
Ontario[c]	3.14	3.21	3.12	3.28	3.22	—	—
British Columbia	3.24	3.14	3.28	3.27	3.27	—	—
			cents per lb.				
BUTTERFAT (for butter, average farm value)[a]							
Prince Edward Island	65.4	73.5	65.0	67.0	67.0	—	—
Quebec[b]	82.9	95.7	84.3	82.0	83.0	—	—
Ontario[c]	75.7	76.7	74.1	77.1	77.0	—	—
Saskatchewan	61.4	68.7	60.1	63.0	62.8	—	—
British Columbia	78.9	70.8	80.5	82.2	82.2	—	—
			cents per doz.				
EGGS (average paying prices at registered grading stations, Grade A Large)							
Halifax	44.6	42.2	46.5	38.8	36.2	38.8	34.8
St. Anselme	45.5	40.9	49.0	41.2	33.2	36.3	38.4
London	45.4	40.5	46.2	40.3	33.9	34.8	33.4
Winnipeg	38.1	36.9	38.8	29.9	26.0	27.9	26.0
Vancouver	39.9	41.2	39.2	35.6	31.5	30.0	30.5
			cents per lb. live				
BROILERS (average prices paid to growers No. 1 grade chicken under 5 lbs.)							
Toronto	20.6	21.2	21.1	19.1	19.5	20.0	20.0
Edmonton	21.8	22.2	22.5	20.6	21.4	21.5	21.5
TURKEYS (average prices paid to growers, No. 1 grade, 12-20 lbs.)							
London	25.4	24.6	24.5	24.0	23.8	23.0	22.5
Edmonton	25.8	26.5	26.5	26.0	26.0	25.2	25.0

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1966-67 (Continued)

Commodity, grade and market	1965-66 Crop Year Average	1966 Mar.	1966 Apr.	1967 Jan.	1967 Feb.	1967 Mar.	1967 Apr.
				dollars per cwt.			
POTATOES (Can. No. 1 Table, average prices to growers)							
Prince Edward Island	2.85	3.42	3.87	1.33	1.09	1.04	0.83
New Brunswick	2.28	2.32	2.43	1.15	0.96	0.81	0.57
Southwestern Ontario	2.83	2.73	3.40	1.90	1.80	1.63	1.37
				cents & eighths per bu.			
EASTERN GRAINS							
Oats (Ont. No. 2 White, f.o.b. shipping points)	78	78	78	83	85	85	85
Barley (Ont. good malting, f.o.b. shipping points)	145	145	145	145	145	145	145
Corn (Ont. No. 2 Yellow, f.o.b. Chatham, 15% moisture, in carlots)	144/6	142	142	153/6	153/6	153	154
Soybeans (Ont. No. 2, f.o.b. Chatham)	300/7	297	307/6	296/5	295/2	298/4	297/3
WESTERN GRAINS (basis in store Fort William/ Port Arthur, less freight and elevator handling charges)							
Red Spring Wheat (No. 2 Nor.)							
Winnipeg	183/6	186/3	186/6	196/2	196/3	196/6	196/7
Regina and Edmonton	180/2	182/7	183/2	192/6	192/7	193/2	193/3
Durum Wheat (No. 1 C.W.A.D.)							
Winnipeg	187/6	189/3	190/1	215/2	215/3	215/1	210/7
Regina and Edmonton	184/2	185/7	186/5	211/6	211/7	211/5	207/3
Feed Wheat							
Winnipeg	160/4	162/4	163/3	178/2	178/3	178/6	178/7
Regina and Edmonton	157	159	160/2	174/6	174/7	175/2	175/3
Oats (No. 1 feed)							
Winnipeg	76/5	79/5	78/6	77/1	76/7	77/4	78/6
Regina	74/5	77/5	76/3	75/1	74/7	75/4	76/6
Edmonton	72/5	75/5	74/3	73/1	72/7	73/4	74/6
Barley (No. 1 feed)							
Winnipeg	117	117/5	115/4	116/1	112/3	111/4	112/7
Regina	114	114/6	112/5	113/2	109/4	108/5	110
Edmonton	111/2	111/7	109/6	110/3	106/5	105/6	107/1
Rye (No. 2 C.W.)							
Winnipeg	119/1	118/7	118/4	122/1	124/4	129	129/3
Regina	115/6	115/3	115	118/6	121/1	125/5	126
Edmonton	112/3	112	111/5	115/4	117/7	122/3	122/6
Flaxseed (No. 1 C.W.)							
Winnipeg	289/2	285	283/4	284/6	286/6	290/7	292/7
Regina	286	281/5	280/1	281/4	283/4	287/5	289/5
Edmonton	282/5	278/3	276/7	278	280	284/1	286/1
Rapeseed (No. 1 C.W. basis in store Vancouver)	266/1	265/2	269/2	281	283/5	294/1	280/5

[a] Since the average farm values for manufacturing milk and butterfat published by the Dominion Bureau of Statistics (D.B.S.) do not include the Federal subsidies as of April 1, 1966, it is necessary to add, during the 12-months' period ending March 31, 1967, the Federal payment of 85 cents per hundred pounds of milk testing 3.5% butterfat to obtain the full returns to producers. Ten cents are retained for export aid. The net payment of 75 cents per cwt. is made directly to farmers, at the equivalent rate of 21.43 cents per pound of butterfat.

[b] In the province of Quebec, and beginning April 1, 1966, full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote [a]), plus a payment made by the Quebec government. This payment is made on butterfat at the rate of five cents per pound from April 1 to September 30 and at the rate of 10 cents per pound from October 1 to March 31. Prior to April 1, 1966, this payment, which began in October, 1964, was made through factories and was part of the producer's farm value.

[c] In the province of Ontario, and beginning October 1, 1966 until March 31, 1967 full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote [a]), plus a payment made by the Ontario government. The payments amount to 25 cents per hundredweight (7.14 cents per pound butterfat) of manufacturing milk and secondary and excess fluid milk delivered to plants, basis 3.5% butterfat. For all cream grading Special and/or No. 1, the payment is 10 cents per pound butterfat.

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ECONOMICS BRANCH CANADA DEPARTMENT OF AGRICULTURE

CORRECTION. "The Growth of Agricultural Credit in Canada", Vol. 2, No. 2, June 1967, page 18, Table 3, line 11. Prince Edward Island: For Amount outstanding 1965, read $3.35 million; for Average loan outstanding, read $4,651.

CANADIAN FARM ECONOMICS

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CANADIAN FARM ECONOMICS

COMMODITY REVIEW

GRAINS AND FEED

Wheat Situation, 1966-67—Supplies of wheat held by the four traditional major exporters at May 1, 1967 for export and carryover at the end of their respective crop years amounted to 1.59 billion bushels compared with 1.51 billion bushels at the same time a year before. Although supplies were smaller in the United States and Argentina, these decreases were more than offset by increases in Canadian and Australian supplies (See Table 1).

TABLE 1—WHEAT SUPPLIES OF MAJOR EXPORTERS AT MAY 1

Country	1966	1967
	million bu.	
United States	706	525
Canada	595	739
Argentina	92	63
Australia	121	263
Total for four countries	1,514	1,590

Source: D.B.S., *The Wheat Review*, May, 1967.

A higher level of total wheat supplies is accounted for by the fact that United States, Canadian and Argentine exports of wheat and wheat flour for the 1966-67 crop year are lagging behind exports for the 1965-66 crop year. Although Australian exports are up over last year they do not offset the decrease in exports of the other three countries. In contrast to the situation at February 1, when 1966-67 wheat supplies of the four countries were below last year's supplies, it now appears as if the total supplies of the four countries at the end of the Canadian crop year will be above last year.

Exports of wheat and wheat flour to May 1, 1967 by the four countries totaled 1.19 billion bushels, compared with 1.41 billion bushels to the same date in 1966 (See Table 2). Although Canadian exports to Asian and African countries were up, exports to Communist and Western Hemisphere countries were down, resulting in a net reduction over last year to the same date. United States' exports to Europe and Asia were behind last year while exports to Africa and Western Hemisphere countries were well ahead. Australia doubled its exports to Asia in an attempt to reduce its supplies as a result of a large 1966 crop, whereas Argentine exports to Asia and Eastern Europe have dropped off to almost nothing as a result of a poor crop last year. In June the Argentine government announced that export shipments would be discontinued for the time being.

Canadian Crop Prospects—Indications are that a late spring may have caused 1967 seeded acreages of grains to vary slightly from farmers' planting intentions as of March 1, with less wheat being planted in favor of more coarse grains and oilseeds, and more land being left fallow than originally intended. Total wheat area may only be 30.5 million acres, for example, compared with an intended planting of 31.1 million acres.

TABLE 2—EXPORTS OF WHEAT AND FLOUR IN TERMS OF WHEAT, AUGUST 1 TO MAY 1, 1950-51 TO 1966-67

Country	1950-51/ 1959-60 Avge.	1960-61/ 1964-65 Avge.	1965-66	1966-67
		million bu.		
United States	288	535	627	564
Canada	204	291	410	370
Argentina	64	76	224	74
Australia	72	154	146	185
Total for four countries	628	1,056	1,407	1,193

Source: D.B.S., *The Wheat Review*, May, 1967.

General seeding operations were delayed about two weeks this spring on account of cool, wet weather in most areas and late snow fall in Alberta and Quebec. Since very little seeding had been done before May 15, only 81 per cent of the five spring sown grains in Canada was seeded by May 31. This was below the five-year average of 88 per cent and also behind the 90 per cent completed by the end of May, 1966. Precipitation in Manitoba for the period April 1 to July 3 was slightly less than an inch below normal while mean temperature was two degrees below normal. Precipitation in Alberta was about three quarters of an inch below normal and mean temperature about one degree above normal for the same period, while Saskatchewan had about two and three quarters inches less precipitation and a one degree higher mean temperature than normal.

Drier conditions than normal were experienced during June at a time when the crops require steady general showers to promote tillering and growth. Hot dry weather in the latter part of June and during July, combined with a light to moderate grasshopper outbreak on the Prairies during July, will likely have a retarding effect on ultimate crop yields.

Application of fertilizers will likely be up about 25 per cent over last year as many prairie farmers applied fertilizer to more crops sown on stubble while simultaneously increasing the rate of application on all crops in accordance with recommendations by Soil Testing laboratories. Laboratory analysis of many thousands of soil samples over the winter indicated that, generally, nitrogen was the most deficient element in prairie soils. In response to these reports many farmers applied high nitrogen fertilizers such as 23-23-0 and 33-0-0 at rates of 60 to 80 pounds per acre, in addition to 50 to 80 pounds per acre of phosphorous fertilizer 11-48-0. In contrast with south-western Ontario, where it is the practice to broadcast nitrogen fertilizer in the fall and before seeding, fertilizer in Western Canada is generally applied to the soil along with the seeding operation. This year, however, a change in the trend was noticed in Western Canada as some farmers did broadcast the fertilizer. Investment in fertilizer has nearly doubled over the past few years. This spring, for example, many western farmers applied fertilizer valued at between $6.00 and $8.00 per acre.

The logical implication of this increased fertilizer application is increased yields. However, several factors have arisen this spring which may prevent yields from reaching those expected on the basis of test plot results. Below normal precipitation immediately after seeding, as was the Saskatchewan case, prevented the fertilizer granules from dissolving completely as they must do to be of maximum benefit to the crop. In addition, wild oat chemical controls have not been as effective as they ought to be due to improper and insufficient application, in many cases. Even though late seeding should have had a controlling effect on wild oat growth many farmers experienced a lush crop of wild oats stimulated by fertilizer. As wild oats compete with the grains for moisture, final yields may be adversely affected. Increasing grain crop production is not simply a matter of adding fertilizer, but is the result of controlled fertilizer application, combined with proper chemical weed controls, sound cultivation and moisture conservation practices.

In spite of the near drought conditions on the Prairies and an apparent over-abundance of moisture in the corn growing region of Ontario, total 1967 production of the six major grain crops (wheat, oats, barley, rye, mixed grain and corn), will likely run out in the vicinity of 1.43 billion bushels which is above the 1961-66 average of 1.33 billion bushels but below the record 1966 crop of 1.68 billion bushels.

United States Crop Prospects—The largest wheat crop in the history of the United States, up 18 per cent from 1966 and 28 per cent more than the 1961-65 average was forecast for 1967 by the United States Department of Agriculture in June. Prospective outrun of wheat in 1967 is 1.55 billion bushels which compares with the previous record in 1958 of 1.46 billion bushels, the 1966 harvest of 1.31 billion bushels, and the 1961-65 average of 1.21 billion bushels.

The latest estimate of the winter wheat crop is 1.24 billion bushels, up 40 million bushels from the May forecast and 17 per cent above the final 1966 crop of 1.06 billion bushels, but below the initial 1967 crop forecast made in December 1966 of 1.28 billion bushels. The initial forecast for 1967 spring wheat production is 310 million bushels, up 23 per cent from the 1966 crop of 250 million bushels. The main reason for the good crop prospects is timely rain in the plains region during May, which enabled crops to fill properly thus improving the yield potential. Prospects of such a large American crop may put pressure on Canadian wheat prices, as the United States will no doubt energetically pursue export markets for their wheat. The U.S. Secretary of Agriculture has set a wheat export target for the 1967-68 season of 750 million

TABLE 3—AVERAGE SELLING PRICES OF CANADIAN GRAINS, BY QUARTER, 1966 AND 1967

Grain	Apr.-June Avge. 1966	Jan.-Mar. Avge. 1967	Apr.-June Avge. 1967
		cents per bu.	
No. 1 Northern Wheat[a]	204.4	212.5	212.3
Feed Wheat[a]	178.4	191.5	191.4
No. 1 C.W. Amber Durum Wheat[a]	205.1	228.2	223.4
Ontario Winter Wheat[b]	185.7	199.4	194.6
No. 1 Feed Oats[a]	87.9	86.9	87.7
Ontario No. 2 White Oats[b]	78.0	84.4	85.0
No. 1 Feed Barley[a]	127.4	125.3	124.7
Ontario Good Malting Barley[b]	145.0	145.0	145.0
Ontario No. 2 Yellow Corn[c]	144.4	153.5	154.0

[a]Average of Daily Canadian Wheat Board selling quotations, basis in store at Fort William-Port Arthur.
[b]Average of daily quotations, f.o.b. Ontario shipping points.
[c]Average daily quotations, f.o.b. Chatham.
Source: D.B.S. *Grain Statistics Weekly.*

bushels, which is above the average level of exports by the United States in the last few years.

The 1968 U.S. wheat acreage allotment has been set at 59.3 million acres as the required acreage to produce the supply of wheat needed to meet expected domestic and export needs during the 1968-69 marketing year. With average weather, this should provide a crop of 1.5 billion bushels, or slightly less than the 1967 forecast crop on a larger acreage. The national allotment reflects a 55 million acre allotment plus 4.3 million acres in small farm increases provided for by law. The 1967 total allotment was 68.2 million acres compared with the 1966 allotment of 51.6 million acres.

Grain Prices Outlook—In May, the Canadian Government announced that initial payments for western grains for the 1967 harvest would be raised to $1.70 a bushel for No. 1 Northern Wheat, 65¢ a bushel for 2 C.W. oats, and $1.06 a bushel for 3 C.W. barley, all basis in store at the Lakehead, effective August 1, 1967.

Wheat prices in general remained firm for the first half of 1967. Amber Durum and Ontario Winter wheat prices were above the average for the same period in 1966, and should continue above 1966 prices into the harvest season. Spring wheat prices, while remaining above last year's level, went down several cents per bushel at the end of June and in early July, 1967, in order to maintain competitive prices in export markets where sales have been sagging in recent months.

Western feed oats prices were at about the same level as last year during the second quarter while Ontario White Oat prices were above last year's prices. Oat prices will remain unchanged during the third quarter of 1967. Feed barley prices continue on a downward trend, but appear to be leveling off as the 1967 harvest approaches, and should continue at current levels as the harvest season proceeds. Ontario corn prices remained at a higher level than last year as did American corn prices; however, as the United States harvest appears likely to be abundant, corn prices on both sides of the border may experience declines of 5¢ to 10¢ a bushel during the third and fourth quarters of 1967. Table 3 compares average three-month prices of major Canadian grains for the second quarter of 1966 and the first and second quarters of 1967.

G. A. Hiscocks and G. G. Pearson

CONSUMPTION OF MILK AND DAIRY PRODUCTS

Canadian per capita consumption of milk and dairy products in terms of milk, which has been on the decline in recent years, continued its downward slide in 1966, according to figures recently released by the Dominion Bureau of Statistics (Table 1). Total consumption of all milk last year amounted to 17.54 billion pounds a decline of 0.4 per cent from 1965. This was the first time since 1961 that total milk consumption had registered a decline. On a per capita basis, total consumption of all milk was 885 pounds—down 2.3 per cent from the 1965 figure of 906 pounds.

Although total consumption of fluid milk and cream at 6.1 billion pounds was slightly ahead of the previous year, per capita intake declined by more than five pounds. Consumption of cheddar

94105—1½

TABLE 1—PER CAPITA CONSUMPTION OF DAIRY PRODUCTS, CANADA, 1960-64 AVERAGE, 1965, 1966

Product	1960-64 Avge.	1965	1966
		lbs.	
Total milk (all products)	896.5	906.2	885.0
Fluid milk and cream[a]	329.9	318.5	313.2
Creamery butter	17.3	18.2	17.4
Cheddar cheese	3.1	3.4	3.0
Total cheese[b]	7.9	9.1	9.2
Evaporated whole milk	16.5	15.3	15.0
Skim milk powder	7.7	7.1	8.2
Cottage cheese	1.4	1.6	1.6
		gallons	
Ice cream	2.4	2.6	2.7

[a]Includes fluid sales plus milk and cream consumed in farm homes.

[b]Total cheese includes cheddar used as such, process cheese made from cheddar, and other cheese made from whole milk and cream.

cheese, as such, and creamery butter also declined, both in total and on a per capita basis. Creamery butter, which accounted for the largest decline in the consumption of any dairy product, decreased from 356 million pounds in 1965 to 348 million pounds in 1966, and on a per capita basis from 18.2 pounds to 17.4 pounds.

The bright side of the consumption picture was for ice cream, processed cheddar cheese, other cheese made from whole milk, cottage cheese and skim milk powder, which all recorded per capita gains. Skim milk powder, showing the greatest gain, increased from 7.1 pounds per capita to 8.2 pounds.

The decline in fluid milk and cream consumption and the substantial increase in skim powder usage is attributed partly to price increases for fluid milk. Butter and cheddar cheese prices also increased in 1966. General price increases for foods that made up the food basket may have caused some switching from dairy products to cheaper substitute products.

V. McCormick

RECENT TRENDS IN THE EGG INDUSTRY

The results of the 1966 Census of Agriculture provide the latest benchmark data on some of the changes that have occurred in Canada's egg industry since 1961, the date of the previous Census of Agriculture. A preliminary report of 1966 Census data was released by the Dominion Bureau of Statistics in June, and this report will be followed by further releases until the final reports are available. The June report contains some data which relate to recent changes in Canada's egg industry.

Location of Production—Egg production is an important sector of the farm economy in each province of Canada, but regional shifts in the location of egg production within Canada continued between 1961 and 1966. The Census numbers of layers on farms at June 1 from 1951 to 1966 are shown, by province, in Table 1.

In Canada, there was an overall reduction in layer numbers at June 1 of 3.2 million from 26.4 million in 1961 to 23.1 million in 1966. Between 1961 and 1966, layer numbers increased slightly in Newfoundland, Manitoba and British Columbia, but were reduced in each of the other seven provinces. In Prince Edward Island, New Brunswick, Ontario, Saskatchewan and Alberta, the percentage reductions were moderate while in Quebec, the reduction in layer numbers was slight.

Generally speaking, the decline in layer numbers was greatest in those provinces which are largely agricultural, for example, Prince Edward Island and Saskatchewan. On the other hand, those provinces in which agriculture is a relatively less important part of the total economy, experienced growth in layer numbers between 1961 and 1966, for example, British Columbia, Newfoundland and Quebec. In those provinces where the egg industry has grown in recent years, most of the expansion has occurred in the proximity of the largest metropolitan and urban centers. These trends are shown by the increase in layer numbers in those Census divisions having the greatest number of people.

The major reasons why the egg industry in Canada has shifted from farming areas toward urban areas involves changes that have occurred in both egg marketing and production. From the marketing point of view, the main emphasis has centered upon quality control and volume incentive programs. These programs require the rapid movement of eggs to the consumer under controlled conditions of sanitation, temperature and humidity from specialized laying flocks. Under these programs, automatic grading and packaging are replacing manual methods of candling and packaging.

From the production point of view, changes in breeding, feeding, housing and mechanization have reduced the relative costs of specialized egg production as compared with farm flock production. The light-bodied hybrid Leghorns have been able to achieve feed conversions in a range from 4 to 5 pounds of feed per dozen eggs when fed balanced,

TABLE 1—TRENDS IN THE NUMBERS OF FARMS REPORTING LAYERS, LAYER NUMBERS AND AVERAGE FLOCK SIZE IN CANADA, BY PROVINCE, 1951, 1956, 1961, 1966

	Unit	1951	1956	1961	1966
NEWFOUNDLAND[a]					
Layers	000's	74	106	228	318
Farms	No.	2,638	1,593	996	665
Average Flock Size	"	28	66	229	478
PRINCE EDWARD ISLAND					
Layers	000's	432	407	292	188
Farms	No.	7,720	6,733	4,003	2,357
Average Flock Size	"	56	60	73	80
NOVA SCOTIA					
Layers	000's	728	1,087	1,123	1,074
Farms	No.	13,219	10,784	5,415	2,761
Average Flock Size	"	55	101	207	389
NEW BRUNSWICK					
Layers	000's	480	554	545	457
Farms	No.	16,727	12,903	6,274	3,120
Average Flock Size	"	29	43	87	146
QUEBEC					
Layers	000's	3,590	4,037	4,112	4,001
Farms	No.	81,272	69,401	44,576	24,102
Average Flock Size	"	44	58	92	166
ONTARIO					
Layers	000's	8,463	10,362	10,428	8,486
Farms	No.	93,047	79,475	53,431	29,583
Average Flock Size	"	91	130	195	287
MANITOBA					
Layers	000's	1,891	2,326	2,355	2,417
Farms	No.	34,829	30,260	19,768	11,847
Average Flock Size	"	54	77	119	204
SASKATCHEWAN					
Layers	000's	2,570	2,950	2,272	1,426
Farms	No.	70,142	61,776	43,361	28,596
Average Flock Size	"	37	48	52	50
ALBERTA					
Layers	000's	2,560	3,343	2,793	2,227
Farms	No.	54,876	50,201	37,474	25,649
Average Flock Size	"	47	67	75	87
BRITISH COLUMBIA					
Layers	000's	1,620	2,040	2,454	2,524
Farms	No.	14,669	13,448	8,445	5,753
Average Flock Size	"	110	152	290	439
CANADA					
Layers	000's	22,334	27,106	26,374	23,119
Farms Reporting	No.	389,083	336,553	223,694	134,437
Average Flock Size	"	57	80	118	172

[a]Total farms reporting chickens 1951 to 1961; reporting layers 1966.

high energy rations. Along with the changeover to a specialized layer, the commercial feed industry has expanded and become more efficient in the manufacture and distribution of feeds. Improvements in laying house ventilation, mechanization and disease control have enabled bird densities to be increased with a resultant drop in housing and labor costs per layer and per dozen eggs. These changes have resulted in Canadian egg production becoming more concentrated and more specialized than was the case in the past.

Size of Laying Flocks—The sharp and steady reduction in the number of farms in Canada keeping laying flocks continued between 1961 and 1966. Farms reporting layer numbers at June 1, 1966, were estimated at about 134,000, or 89,000 fewer than at the same time of the 1961 Census, and about one-third of the number of farms having egg laying stock at June, 1951. However, average size of flock in Canada has continued to increase over the years from 118 birds at June 1, 1961 to 172 at June 1, 1966.

TABLE 2—COMPARISON OF THE 1966 CENSUS OF HENS AND PULLETS, SIX MONTHS AND OLDER, WITH ESTIMATES FROM THE JUNE 1, 1966 POULTRY SURVEY

Province	Hens and Pullets 6 Months and Over		
	Poultry Survey Estimates	Agricultural Census	
		Total	Per Cent of Canada
	thousands		
Newfoundland	[a]	318	1
Prince Edward Island	205	188	1
Nova Scotia	1,050	1,074	5
New Brunswick	450	457	2
Atlantic Provinces	1,705	2,037	9
Quebec	3,810	4,001	17
Ontario	8,700	8,486	37
Central Provinces	12,510	12,487	54
Manitoba	2,360	2,417	10
Saskatchewan	1,465	1,426	6
Alberta	2,255	2,227	10
Prairie Provinces	6,080	6,070	26
British Columbia	2,695	2,524	11
CANADA	22,990	23,119	100

[a]The June and December Surveys do not include Newfoundland.

The reduction in the number of laying flocks has occurred in each province, but has been somewhat more rapid in Eastern Canada than in Western Canada. Average sizes of flocks have risen more rapidly in Eastern Canada than in the Prairies, particularly in Saskatchewan and Alberta where farm flocks are most numerous.

Census data on the distribution of flocks by size groups are not yet available, but they will undoubtedly show that the overall reduction in flock numbers is entirely associated with a faster drop in the numbers of small farm flocks in each province. On the other hand, commercial size flocks increased in numbers in all provinces between 1961 and 1966. In 1961, of the 223,694 Census laying flocks in Canada, only 3,026 farms reported flocks with 973 layers or more. However, these largest flocks in 1961 were about three times as numerous, compared with flock numbers of this size group in 1956.

Intercensal estimates of layer numbers in Canada, by province, are prepared by the Agriculture Division, Dominion Bureau of Statistics, on the basis of replies to the semi-annual June 1 and December 1 poultry mail survey of farms in Canada. There will likely be small revisions of D.B.S. intercensal estimates of layer numbers and egg production from 1963 to 1967 as a result of the 1966 Census. On a national basis, the revised layer numbers and egg production will be very slightly lower than previously reported because the Census number of layers was 190,000 fewer than had been estimated at June 1, 1966 on the basis of the semi-annual surveys. Census layer numbers were a little lower in Ontario and British Columbia than the June 1, 1966 estimates, but were larger in Quebec. These comparisons are shown in Table 2.

J. D. F. Kidd

ONIONS

The importance of onions as a commodity has increased remarkably during the 1960's mainly because the crop and exports are larger. The types of onions under consideration are red, silverskin, yellow and spanish onions, the latter being mainly jumbo yellow ones.

Although onions are produced across Canada, the main areas of commercial production are the Bradford Marsh, the London area and the counties of Essex and Kent. Together they supply over 90 per cent of the Ontario production, which in turn has accounted for 60 to 85 per cent of Canadian production in the last two decades. The production units are not numerous but they tend to be large.

In marketing it is found that Ontario onions go to all markets in Canada and form the bulk of the exports, whereas Quebec, which is the second largest supplier, sells all its onions locally. Red onions are produced chiefly in Quebec because that is where there is the principal demand.

Canada is almost self-sufficient in onions. This is rather recent, as Tables 1 and 5 show, because in the 1950's the acreage remained around 6,000 to 7,000 acres and imports were large while exports were minimal. During the 1960's, the acreage has expanded greatly and there has been a sub-

TABLE 1—ACREAGE OF ONIONS, CANADA AND SELECTED PROVINCES, 1949-1965

Year	Quebec	Ontario	Prairies	British Columbia	Canada
			acres		
1949	2,000	4,680	890	1,140	8,710
1950	2,300	4,880	630	1,300	9,110
1951	1,180	4,290	760	760	6,990
1952	1,050	3,650	450	730	5,880
1953	920	4,160	630	990	6,700
1954	990	3,820	620	780	6,210
1955	1,160	3,840	470	570	6,040
1956	1,050	3,860	510	470	5,890
1957	1,140	3,660	550	370	5,720
1958	1,870	3,590	520	400	6,380
1959	2,360	3,770	940	400	7,470
1960	2,390	3,960	900	450	7,700
1961	2,500	3,880	1,120	450	7,950
1962	2,750	4,210	1,240	610	8,810
1963	2,860	5,070	1,350	570	9,850
1964	2,500	5,050	1,410	630	9,590
1965	3,000	5,210	1,590	500	10,300

TABLE 2—PRODUCTION OF ONIONS, CANADA AND SELECTED PROVINCES, 1949-1965

Year	Quebec	Ontario	Prairies	British Columbia	Canada
			000 lbs.		
1949	16,800	97,800	10,600	13,900	139,100
1950	42,700	111,850	6,850	17,200	178,200
1951	16,150	72,800	8,500	13,700	111,150
1952	13,965	86,694	3,300	14,400	118,361
1953	8,556	102,242	7,270	19,508	137,576
1954	6,930	85,878	4,330	13,167	110,305
1955	6,460	100,308	3,684	7,452	117,904
1956	6,669	78,240	6,512	8,187	99,608
1957	8,673	90,110	5,124	7,956	111,863
1958	26,180	78,402	3,410	5,579	113,571
1959	26,711	101,290	7,097	7,687	142,785
1960	37,762	115,794	8,964	10,971	173,491
1961	41,000	95,666	8,872	8,711	154,249
1962	53,075	139,344	20,404	15,249	228,072
1963	59,488	162,912	18,312	16,142	256,854
1964	55,250	131,020	15,174	14,278	215,722
1965	71,400	185,508	22,000	10,045	288,966

TABLE 3—ONION YIELDS, CANADA AND SELECTED PROVINCES, 1949-1965

Year	Quebec	Ontario	Prairies	British Columbia	Canada
			lbs. per acre		
1949	9,400	20,900	11,900	12,200	16,000
1950	18,400	22,900	10,900	13,200	19,600
1951	13,700	17,000	11,200	18,000	15,900
1952	13,300	23,800	7,350	19,700	20,100
1953	9,300	24,600	11,000	19,700	20,500
1954	7,000	22,500	6,000	16,900	17,800
1955	5,600	26,100	5,000	13,100	19,500
1956	6,400	20,300	12,000	17,400	16,900
1957	7,600	24,600	9,000	21,500	19,600
1958	14,000	21,800	7,000	13,900	17,800
1959	11,300	26,900	7,000	19,200	19,100
1960	15,800	29,200	11,000	24,400	22,531
1961	16,400	24,656	6,500	19,400	19,402
1962	19,300	33,100	14,000	25,000	25,900
1963	20,800	32,100	12,000	28,300	26,100
1964	22,100	25,900	10,000	22,700	22,500
1965	23,800	35,600	14,000	20,100	28,100

TABLE 4—SUPPLY[a] AND PER CAPITA CONSUMPTION OF ONIONS, CANADA, 1961 TO 1965

Year	Supply	Annual Consumption per Capita
	000 lbs.	lbs.
1961	195,454	10.7
1962	232,492	12.5
1963	248,000	13.1
1964	220,000	11.4
1965	292,502	14.9

[a]Production plus imports minus exports (excluding inventory change).

TABLE 5—IMPORTS AND EXPORTS OF ONIONS, CANADA 1949-1965

Year	Imports	Exports
	000 lbs.	
1949	41,050	7,250
1950	28,700	2,650
1951	59,800	2,550
1952	53,100	2,400
1953	55,750	2,750
1954	89,400	3,600
1955	72,900	5,300
1956	88,085	4,484
1957	79,924	5,838
1958	88,980	4,700
1959	74,489	4,616
1960	57,484	24,932
1961	56,885	15,680
1962	55,951	51,536
1963	52,279	60,589
1964	62,540	57,467
1965	60,181	56,645

stantial rise in yields so that the total production has greatly increased as shown in Tables 1, 2 and 3.

Both the demand for and the supply of onions are fairly inelastic at any given time, although consumption, as shown in Table 4, has grown from 10.7 lbs. per capita in 1961 to 14.9 lbs. in 1965. Throughout a crop year the demand tends to be steady and the price appears to fluctuate in response to changes in supply with higher prices bringing forth imports and lower prices favoring exports. On the supply side, it is seen that acreage adjustments often do not correspond to price changes.

With regard to exports and imports, which in total almost balance each other, Tables 5 and 6 show that trade is seasonal. Exports are the greatest in fall and winter, when stocks are large, and go mostly to the United Kingdom, and to Commonwealth countries in the Caribbean where Canada enjoys preferential tariffs. The imports come mainly from the United States when Canadian stocks are low in late spring and in summer. These counterbalancing imports and exports keep disposable stocks in equilibrium and have a steadying influence on wholesale and retail prices, but apparently little influence on farm prices. Domestic unloads of onions, in carlots, were 2,062 in 1965 and 2,430 in 1966, whereas imported unloads were 1,353 and 1,195 respectively. Even though imports have fluctuated between 55 and 85 million pounds in the last 10 years, they have decreased slightly in relation to the population. Most of the imported onions come by rail, 67 per cent, and 33 per cent by truck,

TABLE 6—SEASONALITY OF IMPORTS AND EXPORTS OF ONIONS, CANADA 1965 AND 1966, ALSO RELATIVE IMPORTANCE OF MAIN SUPPLIER AND MAIN BUYER

Year and Month	Imports		Exports	
	Total	From United States	Total	To United Kingdom
	000 lbs.		000 lbs.	
1965 January	1,868	1,863	6,090	
February	2,190	2,190	5,462	
March	5,253	3,078	7,631	
April	6,483	5,218	1,435	
May	12,846	11,308	1,008	
June	13,401	11,357	112	
July	12,147	11,887	266	
August	2,771	2,708	474	
September	3,450	2,138	1,454	
October	2,975	1,091	7,587	
November	1,913	1,711	17,447	
December	3,074	2,185	10,825	
	68,370	56,733	59,790	47,373
1966 January	2,593	2,508	9,689	
February	3,455	3,171	6,760	
March	2,993	2,304	1,995	
April	3,633	1,696	2,390	
May	6,187	5,320	1,897	
June	14,992	13,442	264	
July	10,885	10,439	103	
August	6,026	5,926	537	
September	3,968	3,873	1,933	
October	3,026	1,756	2,710	
November	3,489	1,763	6,570	
December	1,907	1,585	11,458	
	63,153	53,784	46,308	30,858

whereas domestic onions are 87 per cent by truck and 13 per cent by rail; apparently trucks do the short hauls.

To protect domestic production, there is a 10 per cent ad valorem duty which can be changed to a 1½¢ per pound seasonal duty and applied in two periods of up to 44 weeks in total. As an example, in the central region of Ontario and Quebec, during the 1965-66 crop year, the seasonal duty applied from April 1 to April 14, 1965 and from June 22, 1965 to March 28, 1966—a total of 42 weeks. In spite of that seasonal duty, in that same region and in the same year, 54 per cent of the imports came under the seasonal duty which in relation to the customs value of the onions was equivalent to a 30.6 per cent ad valorem tariff. The British preferential tariff, which is free, was little used, as 83 per cent of the imports were from the United States, 8 per cent from Spain and 5 per cent from Chile.

J. G. Lussier

CAULIFLOWER—GENERAL REVIEW

Cauliflower is a relatively minor crop in Canada because the special conditions of soil and climate, which it prefers, are found only in certain areas. Cauliflower production, however, has been expanding gradually to reach a record crop of 37.4 million pounds in 1966. This represented an increase of 55 per cent over the 1955 figure. The rise in production was due mainly to a parallel increase in acreage, since there was no similar gain in yield. The area producing cauliflower in Canada in 1965 amounted to 3,310 acres (Table 1), which represented a 37 per cent increase over 1955.

Although cauliflower is grown in almost all the provinces of Canada, Ontario and Quebec together account for over 77 per cent of the total production. About 57 per cent of the total crop is produced in Ontario alone. Because of more favorable weather conditions and improved horticultural practices, the yield per acre in Ontario is slightly higher than the Canadian average.

Since cauliflower is produced mainly for fresh consumption, only about 13 per cent of the crop is used for processing.

Imports, which are almost entirely from the United States, have decreased sharply in the last

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TABLE 1—CAULIFLOWER PRODUCTION, CANADA 1955 TO 1965

Year	Area	Yield Per Acre	Total Production	Allocation of Production		
				Fresh Consumption	Processing	Fresh Export
	acres	lbs.	000 lbs.	000 lbs.	000 lbs.	000 lbs.
1955	2,420	10,000	24,157	22,040	1,921	196
1956	2,570	9,500	24,311	20,081	3,861	369
1957	2,100	10,900	22,986	19,230	3,562	194
1958	2,580	11,100	28,758	24,663	4,010	85
1959	2,830	8,900	25,265	21,813	3,371	81
1960	2,570	10,686	30,240	25,820	4,383	37
1961	2,720	10,022	27,260	23,145	3,956	153
1962	2,860	11,900	33,899	28,672	5,014	213
1963	3,110	11,800	36,640	30,090	6,404	146
1964	3,150	10,700	33,770	n.a.	n.a.	137
1965	3,310	11,300	37,490	n.a.	n.a.	85
1966	3,000	n.a.	n.a.			

Source: Dominion Bureau of Statistics; Crop and Seasonal Price Summaries, Canada Department of Agriculture.

TABLE 2—CAULIFLOWER, SEASONAL AVERAGE WHOLESALE QUOTATIONS, SELECTED MARKETS, ALL SIZES AND GRADES, 1960 to 1965

Year	Halifax	Montreal	Toronto	Winnipeg	Vancouver	Canada
	dollars per dozen					
1960	2.30	1.93	1.96	2.78	2.46	2.57
1961	2.69	1.97	1.95	2.68	2.32	2.57
1962	2.61	2.11	2.10	2.49	2.48	2.55
1963	2.72	2.25	2.33	2.57	2.67	2.76
1964	2.93	2.00	2.20	2.58	2.85	2.67
1965	2.98	1.87	2.50	2.70	2.75	2.88

Source: Crop and Seasonal Price Summaries, Canada Department of Agriculture.

10 years—from 20.6 million pounds in 1955 to 11.5 million pounds in 1965.

Fresh cauliflower imports are admitted free from January 1 to April 30. The domestic supply, which normally extends from June to October, reaches its peak in October. Imports are insignificant during this period. A specific duty of $\frac{3}{4}\phi$ per pound is in effect for 20 weeks, which may be divided into two separate periods. When the specific duty is not in effect, a 10 per cent ad valorem duty is maintained during the dutiable period. The only concession made during the Kennedy Round on Tariffs and Trade was to extend the free period through the month of May.

The value of cauliflower imports from the United States during the period 1961-66 averaged $1.4 million annually.

When the domestic supply is plentiful, prices are substantially below those prevailing during the remainder of the year. The highest price is generally registered during the month of December and the lowest in September. The average wholesale quotations for selected Canadian markets during the period 1960 to 1965 are shown in Table 2. Prices at the Toronto and Montreal markets, which are located near the high-production areas, are considerably lower than the Canadian average.

The consumption of cauliflower is very stable, with almost no variation in per capita intake during the 1955-1965 period. Per capita consumption is about 2.3 pounds per year. A progressive increase in total demand is expected as the population expands, with per capita intake remaining at close to the present level.

J. L. Pando

U.S. QUOTA ON CHEDDAR CHEESE

The annual imports of all American-type cheese into the United States for the year beginning July 1, 1967, is limited by quotas to a total of around 16 million pounds, according to an official U.S. announcement. The global quota includes an increase in the previous cheddar cheese quota, as well as a new quota for Colby and other American-type cheese, and a separate quota of 1,225,000 pounds of cheddar aged nine months or more and made from unpasteurized milk.

Canada has an opportunity to meet most, if not all, of the aged cheddar quota. It would appear, since no import licences are required, that Canada is in the best position of any country to meet the specific quota requirements.

Canadian cheddar has moved across the border in very limited quantities since 1953, when the United States imposed quotas to prevent interference with the price support program for milk and butterfat. The initial U.S. quota on cheddar from all countries, based on import histories during the 1948-50 period, totaled less than three million pounds, with Canada's share amounting to about 500,000 pounds. The Canadian annual quota was increased to 614,000 pounds in 1964.

The latest quota on aged cheddar, if Canada is successful, will be helpful in developing a further market for the Canadian product in the United States.

In 1966, Canada exported a total of 35.2 million pounds of cheddar cheese to all countries, with 96 per cent going to the United Kingdom market.

The announcement also restricts imports of butterfat-sugar mixtures, such as Junex, to 2,580,000 pounds annually. These products were not previously under U.S. quota restrictions.

V. McCormick

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FARM MANAGEMENT IN CANADA

R. A. Stutt

In mid-1966, a survey of the farm business management activities of government agencies and universities in Canada was undertaken by the Economics Branch of the Canada Department of Agriculture. This article is a brief account of the highlights of these activities, mainly in terms of program organization, farm record keeping assistance and extension advisory services. No attempt is made to report in any detail on farm management research. A detailed review of research will be found in "An Inventory of Agricultural Economics Research in Canada, 1964 to 1966", published by the Economics Branch as a separate report (*1*).

BRITISH COLUMBIA

Program Organization

The British Columbia Department of Agriculture offers a program of study in farm business management to farmers and ranchers. This service was started in 1965 and is available through the Farm Economics Division of the Department and the district agriculturists.

Farm Record Keeping

The farm business management program is designed to provide farmers with a better understanding of the factors affecting profitability and the keeping of accurate farm records is considered an important part of this process. The Department supplies the necessary materials, including the "British Columbia Farm Account Book", teaches record keeping, performs the record analysis and aids the farmer or rancher in the interpretation of the results.

Formal instruction in record keeping is maintained for three-year periods. This instruction is given at four-day workshops during the winter at various centers in the province.

In 1966, approximately 400 farmers participated in the program. They were organized into 18 to 20 work groups with the assistance of the district agriculturists. About 240 of the 320 farmers who commenced the program in 1965 took part for the second year in 1966. Graduates of the three-year farm business management program are offered the account book and the record analysis service on a continuing basis. Yearly enrollment cost, which includes a new account book each year, is $12.50 a farm. Individual farm data are kept strictly confidential and only group results are published annually for use by farmers and others. New enrollees are accepted in the fall of each year by the district agriculturist. Ten farms or ranches are required in order to start a new group in an area.

Farm Management Extension and Research

The final phase of the provincial program involves extension and interpretation of the farm accounts to the farmers. The farm management specialists together with the district agriculturists interpret the records, discuss the results of the analysis with the farmers and offer advice on improvements and adjustments in farm organization, enterprise selection and farm practices. In-service training is given to the district agriculturists in farm management.

The Agricultural Economics Department of the University of British Columbia has not engaged in any work in farm management extension in recent years. The Department does, however, undertake selected research projects. Recent studies have been made of the adoption of innovations by British Columbia farmers.

ALBERTA

Program Organization

Farm management extension services are organized in Alberta through the Farm Management section of the Agricultural Economics Division of the Alberta Department of Agriculture. This section has a professional staff of four at Edmonton with another four economists at regional offices in Lethbridge, Calgary, Red Deer and Fairview.

Farm Record Keeping

Farm business associations which were first started in 1957, are now organized in 28 district agriculturist areas and involve approximately 400 farmers. The regional supervisors (farm management economists) provide professional assistance to the district agriculturists who direct the program. Instruction in the use of accounting systems is given to farmers by the district agriculturists. The "Prairie Provinces Farm Account Book" is used extensively. This book is widely used by other farmers who are not members of the farm business associations.

Participants in the farm business associations pay a $10 fee to cover a portion of the costs of analysis and report preparation. The analysis enables the farmer, together with the district agriculturist and

the regional supervisor, to evaluate his farm program and make appropriate adjustments.

The Production Research Section of the Agricultural Economics Division has conducted dairy cost studies for many years in the major milk sheds of the province. Enterprise studies have been made also for poultry, hogs, canning and freezing peas, fresh vegetables on irrigated farms, oilseeds and wheat.

Farm Management Extension and Research

The extension activities at the local level are a team effort by the district agriculturist, the farm management economist and the commodity specialists of the Department. In addition, the Agricultural Economics Division has an in-service training program for the district agriculturists. A comprehensive farm management data manual has been prepared and kept up to date for their use and for the guidance of the members of the associations and others. Annual reports of the associations and special extension material are published. In January, two-day workshops are held annually in each district agriculturist's area. The farmers bring their records to the office, accounts are edited and transferred to new forms for data processing and analysis.

The scope of the farm management program, in addition to farm record keeping, includes: planning for higher profits; risk and uncertainty considerations; economics of beef production, hog production and crop production; economics of machinery buying; estate planning, and farm business arrangements (partnerships, father-son agreements, incorporation).

A considerable amount of research in farm management is carried out by the Department of Agricultural Economics at the University of Alberta. Members of this Department provide advisory services to farmers through private consultation, correspondence, and as special speakers at farm meetings. The Agricultural Economics Division of the Alberta Department of Agriculture also has an active research program in farm management, utilizing much of the data provided by the members of the farm business associations.

SASKATCHEWAN

Program Organization

A rapid expansion in farm management extension has taken place in Saskatchewan in the last decade. In 1957, a Farm Management Division was established in the Extension Branch and later transferred to the Agricultural Representative Branch of the Saskatchewan Department of Agriculture. A reorganization of the Department in April, 1967 placed the Farm Management Division in the Economics and Statistics Branch. This Division has primary responsibility to channel technical information from research conducted by itself, the Department of Agricultural Economics at the University of Saskatchewan, and others to farmers.

The Farm Management Division employs five full-time farm management specialists, located in Regina, Swift Current, North Battleford and Melfort, together with three specialists on a part-time basis.

Farm Record Keeping and Management Clubs

Major emphasis has been placed in Saskatchewan on the development of farm management clubs under the leadership of the agricultural representatives. At the end of March, 1966, there were 100 study groups operating in the province ranging in size from eight to 60 members, and the total membership was 2,078 farmers. These study groups meet regularly once a month in the winter months in order to discuss farm management problems. The general program is a three-year sequence consisting of meetings on a broad group of topics. A variety of economic information is disseminated through the study groups by the farm management specialists and the agricultural representatives to enable the members to evaluate their own operations and to make appropriate adjustments.

The current account book used is the "Prairie Farm Account Book", which enables a detailed analysis of the various farm enterprises. An annual farm business summary and a five-year summary depicting the costs and returns of farm management club members by the various types and sizes of farms in the three major soil zones of Saskatchewan is published. Four hundred and thirty farm business records of members were analyzed for 1965. Participating farmers receive an individual report showing the performance of their businesses, including a detailed breakdown by enterprise, compared with the group average. This program was developed as a joint project of the University of Saskatchewan and the provincial Farm Management Division.

Some of the farm management club member records are being used in an experimental mail-in electronic data processing service. In 1966, the provincial Department announced a charge for this service commencing in 1967. The fee charged will cover the costs of clerical staff and computer time and is expected to range from $30 to $50 a year,

depending on the number of enterprises analyzed for each farmer. About 50 farmers are submitting monthly statements in an attempt to determine the type of detail that can be obtained and whether monthly mail-in accounting has a future in this province.

Farm Management Extension and Research

It is felt that the group approach to farm management extension used by the clubs provides the means whereby a relatively large number of farmers can take a fairly intensive program for three years and, with subsequent follow-up short courses, make substantial improvements in their general management ability.

In addition to the regular club program, 55 short courses were held throughout the province in 1965 to accommodate non-members or graduates of the regular three-year program. A farm management handbook has been developed and about 5,000 of these have been distributed.

Saskatchewan farmers also receive farm management information from private consultants, real estate and trust companies, lawyers, accountants and supply firms. The Saskatchewan Wheat Pool, for example, has established service centers with staff agrologists to provide both technical and farm management information.

MANITOBA

Program Organization

The Farm Management Section of the Economics and Publications Branch, Manitoba Department of Agriculture and Conservation, offers a four-year program of study in farm accounting methods to groups of farmers. This farm business group program is organized, developed and handled by the provincial agricultural representatives. Since the start of the program, groups have been organized in all agricultural representative districts. The program commenced in 1958-59 and, up to the end of the 1964-65 fiscal year, 46 clubs had been organized involving over 1,200 members. Nineteen clubs with 290 members have completed the course, while 32 clubs with almost 900 members were operating in 1964-65.

Experience to date indicates that the groups made up almost entirely of young farmers, that is, those in their twenties and early thirties, are not the most successful. It is now recommended that a group should include a number of well-established farmers but that the majority should be under 40 years of age. About 25 members are considered to be the desirable group size. Larger numbers are recommended at the outset since some will usually drop out for various reasons.

Two groups of farmers in the Carman district and in western Manitoba have been organized for some time under the University of Manitoba for similar purposes. The program of these groups is discussed in the next section.

Farm Record Keeping

An integral part of the Manitoba program is the keeping of financial accounts and records of production. The "Prairie Provinces Farm Account Book" is used. The same account book is used by the University of Manitoba (Department of Agricultural Economics and Farm Management) in its program. (The "Prairie Farm Account Book" used by the Saskatchewan Department of Agriculture has slight modifications). Farm management specialists from the Department assist in the setting up of the farm accounts and make calls on all first and second-year members to check on problems encountered and to keep their record books up to date. They also assist in closing the books at the end of the year.

Members of farm business clubs are required to pay a minimum annual fee of $10. Records are kept for the whole farm operation and by each enterprise. The farmers are then encouraged to send their account books to the Department for analysis.

Two farm business associations have been established by the Department of Agricultural Economics and Farm Management of the University of Manitoba. These were organized in the Carman district in 1957 and in western Manitoba (Miniota, Minnedosa, Hamiota and Neepawa districts) in 1961. The Carman group initially had 70 members and now has 78, while the western Manitoba group was organized with 80 members, the present number being 76.

The members of a University farm business association pay an annual fee of $35. The association in turn makes an annual grant of $2,500 to the University. During the first three years of operation, several commercial and financial institutions contributed to the cost of the Carman district program. In 1960, the Department of Agricultural Economics and Farm Management of the University assumed the major portion of the cost as part of a continuing program in research in this field.

Membership in the University supervised associations depends primarily on willingness to participate. There are two farm management advisers, one

for each association. The advisers meet with the members several times during the year, about one-half on an individual basis and the balance on a group basis. The latter includes such events as the presentation of the annual report and business meeting, a banquet and a field day.

Farm Management Extension and Research

Annual farm business summaries of the farm business management groups are published by the Manitoba Department of Agriculture and Conservation. The data are grouped by four levels of soil productivity and then classified by four levels of capital investment. It is possible to compare farms on the basis of size, type of organization, investment, gross profit, expenses, and other factors affecting net income. In addition, separate enterprise reports are prepared for beef, beef-cream, milk, hogs and crops.

The provincial farm management program requires that each group meet for 12 three-hour sessions each year. Meetings are scheduled in the fall and winter by the agricultural representatives. During the first summer, soils and crops specialists of the Department visit each farm to prepare a soils map and to advise the member on cropping practices. The farm management specialists also are in direct contact with each farmer in the group.

As previously indicated, the program study sessions last for four years. During the first year, particular attention is given to the principles of farm management, land use, livestock production and farm planning. During the second and third years more technical information is introduced and the members are encouraged to apply these principles to their own situations. In the final year, farm planning on a detailed basis is developed.

Annual reports of the associations operating under the supervision of the Department of Agricultural Economics and Farm Management at the University are also published.

A unique farm management consulting service was initiated by the Economics and Publications Branch, Manitoba Department of Agriculture and Conservation on July 1, 1966. The objective of this service is to provide a continuous, individual service to farmers on a fee basis. A farm management consultant is located at the Agricultural Extension Center at Brandon and is available to farmers in that part of the province who have completed the four-year farm business group study program.

The personal guidance given relates to farm business management problems. It includes on-the-farm visits, assistance in record keeping and analysis, income tax management, father and son business arrangements, estate planning and other management problems. It is estimated that one consultant can provide this service for approximately 70 farmers. Farmers are advised to continue the program for a minimum of three years to obtain maximum benefits.

The current fee has been established at $200 a year with the intention that it be sufficient to cover the operating costs. However, the program is regarded as experimental. Further expansion will depend on the success of this venture and the demand for similar services in other parts of the province.

ONTARIO

Program Organization

The prime responsibility for a farm management extension program in Ontario rests with the Extension Branch of the Ontario Department of Agriculture and Food. This work is carried on through the provincial agricultural representatives located in each county. There are also two other main agencies involved in farm management research and in providing farm management services to farmers. These are the Farm Economics, Co-operatives and Statistics Branch of the Ontario Department of Agriculture and Food and the Department of Agricultural Economics of the University of Guelph.

Farm management research and extension services of the Farm Economics, Co-operatives and Statistics Branch are handled by the Production Research Section. This section has a professional staff of 10. In addition to the staff at headquarters in Toronto there are professional personnel located at Guelph, Vineland and Chatham. At the Department of Agricultural Economics, University of Guelph, the professional staff associated directly or indirectly with farm management research and extension services total five. This is approximately one-third of the total faculty of 16 in the Department of Agricultural Economics.

Farm Record Keeping

The main farm management extension function involving farmers is the "Ontario Farm Account Book Project". This takes the form of joint participation by the agricultural representative, the Production Research Section of the Farm Economics, Co-operatives and Statistics Branch and the Department of Agricultural Economics of the University. Each year more than 1,000 "Ontario Farm Ac-

count Books" are submitted for summary and analysis. The Farm Economics, Co-operatives and Statistics Branch is responsible for editing and summarizing the books, while the data processing is done at the University of Guelph. The results of the analysis are distributed to the participating farmers, to the regional agricultural representatives and to other advisory agencies. Each of the participating farmers receives a report showing an analysis of his farm business as it relates to the average and better-than-average farmers in the type of farm grouping to which he belongs.

In 1966, an entirely new analysis system, in conjunction with a new "Farm Record Book", was developed. This features an improved financial statement, a more meaningful breakdown by types of farming, and a new system of enterprise analysis. This new system also provides an improved record for income tax purposes.

Farm records covering both physical and financial input-output data are kept by members of the Ontario Dairy Herd Improvement Associations (D.H.I.A.) of their dairy enterprises. Approximately 1,200 to 1,300 records are kept on a continuing basis. The D.H.I.A. records pertain to manufacturing milk, cream shippers and beef-cattle-manufacturing-milk farm type combinations. These records are analyzed by the Farm Economics, Co-operatives and Statistics Branch in co-operation with the Livestock Branch of the Ontario Department of Agriculture and Food and are processed at the University of Guelph.

Farm Management Extension and Research

The Farm Economics, Co-operatives and Statistics Branch of the Ontario Department of Agriculture and Food undertakes considerable farm management research, especially on enterprise costs. This information provides farmers with data for use in their business planning and it is also used by the Department in the development of farm programs.

The Department of Agricultural Economics at the University of Guelph provides a wide range of farm management extension services to farmers and to other sectors of the agricultural industry. These include a school for bankers on farm credit, a farmers' educational week, group extension and individual consultation services, research publications, a farm business management reference book or guide, and in-service staff extension training courses in farm management.

Personnel of the university department receive frequent requests to advise farmers and government administrators on farm management problems. The faculty members are available also to participate in farm extension programs throughout the province. Talks on methods of family farm transfers, farm financing, and market prospects are frequently requested. Usually these requests originate through the provincial agricultural representative.

Research is currently underway at Guelph by a national working committee on the development of a Canadian mail-in farm record keeping and business management system. Associated with this committee is a co-ordinating committee which is concerned with the use of the system and the financing of the project. Agencies involved in the working committee include the university departments of agricultural economics at Guelph, Laval and Saskatchewan; the Economics Branch, Canada Department of Agriculture; and the Farm Credit Corporation. The project is sponsored by the Agricultural Economics Research Council of Canada in Ottawa.

The system is being designed to obtain a monthly flow of physical and financial input-output data from farmers and the computerization of record analysis. It will include the collection, recording, processing, analysis, and storage of farm management data and a feed-back report to each participating farmer.

QUEBEC

Program Organization

From 1928 to 1965, some 8,500 farmers in Quebec participated in the "Better Farming Competitions", organized by the Quebec Department of Agriculture and Colonization. These competitions were arranged to familiarize farmers with accounting methods and management. The experience of the competitions indicated that additional farm management advisory services were required. In 1965, a Farm Management Division was organized by the Department and attached to the Agricultural Advisors and Agents Service (Agronomes).

The Faculty of Agriculture of Laval University has a research program on farm management in selected areas, principally farm accounting and the organization of a few farm management clubs.

A program of farm management has been conducted by the Department of Agricultural Economics at Macdonald College for many years and, in 1965, a Dairy Herd Analysis Service (D.H.A.S.) was established in the Animal Science Department.

Farm Record Keeping

The Farm Management Division of the Quebec Department of Agriculture and Colonization announced in October, 1965 the establishment of farm management clubs and of "agricultural profitability" study groups for farmers. In both cases, the keeping of farm accounts is a basic membership requirement.

A simplified account book of notebook size was prepared to permit the collection of basic data for the preparation of a management handbook to be used by study groups. The information obtained is to be used as the basis for recommendations by the farm management advisers.

Study groups, with a minimum of 10 farmers, are proposed as a first step in examining farm management principles. More than 1,500 farmers have joined study groups to date. Farm management clubs concentrate on an intensive study of farm management principles and farm operations with the view to increasing profitability and efficiency. Members of these clubs are former members of study groups. The accounts of study groups are used for individual analysis but those of the farm management clubs, being more complete, are used to establish regional standards.

A new Dairy Herd Analysis Service (D.H.A.S.) was formed in May, 1966 under the direction of the Animal Science Department of Macdonald College. Dairy herd owners with more than 20 cows are invited to apply and areas with groups of interested dairymen are given priority. The entry fee is $15.00 per herd owner and the service costs one cent a cow per day. The minimum charge per herd owner is $7.00.

In September 1966, 125 herds in the Montreal milk shed were in the program. It is hoped to extend the service to at least 400 herds. Five supervisors are employed to handle the field work. They cover one area north of the St. Lawrence River and four areas south of the river, adjacent to Montreal and as far east as St. Hyacinthe. This service covers the farmer's dairy enterprise only and provides complete and accurate information on the feeding, breeding, production and management of each cow in the herd. The supervisor visits each farm once a month and picks up milk samples and the essential information. The milk samples are tested by the Infra-Red Milk Analyzer (I.R.M.A.). The data are then analyzed by an electronic data processing unit at Macdonald College.

A monthly dairy herd analysis report (Dairy Herd Performance Record) is made for each cow together with a herd summary which shows the total milk production; fat test and lactose; age; weight; date to be bred; days in calf; when to dry off; recommended rate of feeding meal; value of milk to date; returns over feed costs; feed costs per hundredweight of milk; hours of labor used per hundredweight of milk, and other data. The data for the herd include total milk production and averages; measures of feeding efficiency; profit over feed costs; milk production per farm worker, etc. It is hoped to extend this type of service to swine herd operators.

A few years ago arrangements were made by the Department of Agricultural Economics at Macdonald College for the processing of some farm accounts which were sent to them by farmers for analysis by ELFAC (*2*).

Farm Management Extension and Research

The Farm Management Division of the Quebec Department of Agriculture and Colonization is now being organized and staffed. In-service training courses and farm management courses were given during the fall of 1965 to 150 agronomists and technicians.

Farm management research has been conducted at Macdonald College for a number of years as an integral part of the overall research program in agricultural economics. Farm management extension has been directed through the Extension Department, largely in the form of special speakers at farmers' meetings.

NEW BRUNSWICK

Program Organization

The Extension Branch of the New Brunswick Department of Agriculture has been responsible largely for farm management services in that province. Any work in this field, mainly farm accounting, was done on the initiative of individual district agriculturists. Two agricultural economists have been attached to the Department and steps have been taken to develop a co-ordinated program.

Farm Record Keeping

During the winter of 1965, a farm accounting club was organized in the Keswick area of York County and 15 dairy farmers attended regular meetings throughout the winter months. There is a group in the Sussex area which is basically a local livestock breed association club. These farmers have carried on active meetings for several years, including a series of meetings on farm accounting. They

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have worked very closely with the district agriculturist.

In both of these instances, regular monthly meetings were held from November to April and, in the case of the Keswick group, meetings were sometimes held as frequently as every three weeks. No attempt has been made to analyze the accounts of these groups for extension purposes other than for the personal advantage of each member. There is no charge for the farm accounting services.

In addition to these organized clubs, each extension service district of the province has a few farmers keeping accounts. The greatest numbers occur in the Moncton, Sussex, Fredericton, and Woodstock areas. It is estimated that there are approximately 100 farmers keeping farm accounts under the direction of district agriculturists. In addition, a number of farmers keep accounts under private arrangement with chartered accountants. In these cases the provincial government staff have no formal contact. There are also a small number of farmers who utilize the farm accounting services of ELFAC.

Junior farmers with farm loans under the provincial farm credit agency are required to keep farm accounts. It is estimated that there are 40 farmers in this category. An analysis of the account book data of this group is planned and it is expected that this will provide useful extension information. Under the newly established Farm Adjustment Board, it is anticipated that the farmers involved will be required to keep accounts.

Farm Management Extension and Research

Activity in farm management extension has been limited but five of the district agriculturists are qualified to analyze farmers' accounts, assist in budgeting procedures and provide farm management planning services. At provincial headquarters there are two farm management specialists. Farm radio or television shows are provided in two or three districts. Some use has been made of these media in discussing decision-making procedures with farmers.

Short courses on general agricultural subjects and problems are offered in most districts of the province. These courses are usually held in the spring and are of two or three days' duration. Quite frequently a major portion of the program is based on farm management and related subjects. For the last five years a "Farm and Home Week" has been held in the central New Brunswick area. In three of these years, the theme has been farm management. Information has been provided on budgeting techniques, the use of farm credit, farm planning, etc. Emphasis has been placed on the need for keeping good farm accounts and the kind of accounts which should be kept for decision-making purposes.

In summary, the main activity in the fields of farm accounting and farm management extension in New Brunswick has been carried out by provincial workers with individual farmers rather than with groups. Present plans are to develop a more co-ordinated program through the Extension Branch; to add to the numbers of farm management specialists both at headquarters and in the field, and to hold more short courses and workshops.

NOVA SCOTIA

Program Organization

In Nova Scotia, farm management is one of the program divisions of the Extension Services Branch of the Nova Scotia Department of Agriculture and Marketing. The other program divisions of the Branch are home economics, agricultural engineering, resource development, 4-H Clubs and marshland maintenance. In addition to the program divisions of the Department, there are three organized agricultural representative regions, each headed by a regional agricultural representative. There are also agricultural representatives located in each county.

The farm business management program has become one of the most important programs of the agricultural representative. This program began as a farm improvement scheme. Individual farmers were visited by a farm management specialist who analyzed the existing farm organization, surveyed the farm resources, and developed an organized production plan based on the farmer's objectives. Assistance was provided in setting up a system of farm accounts. In addition to individual assistance, groups of farmers were assisted through farm management schools of two days' duration and other special courses. Instruction was given on principles and methods of farm management, recognition and study of farm problems.

The general trend now is to organize all farm management services on a group basis. The overall farm business management program includes projects on farm record keeping with analysis and summaries; family farm partnerships; farm leasing; loan counselling, and individual farm planning. These services are offered jointly by the farm management specialists and the agricultural representatives.

Farm Record Keeping

Farm record keeping is the principal farm management activity in Nova Scotia and, in 1965, involved 165 farmers. The "Ontario Farm Record Book" is used. Summaries were published in three bulletins in 1965 by major area and enterprise. These reports provide the basis for advising and planning with the farmers involved, for departmental policy and program purposes, and for formal teaching at the Nova Scotia Agricultural College.

In 1965, there were 12 commercial dairy farms in the province using ELFAC. Farmers on this mail-in farm accounting service are enrolled through the agricultural representatives and the accounts are processed by ELFAC. The fee for the service to farmers in Nova Scotia in 1966 was $42 a farm.

Farm Management Extension and Research

The 1965 report of the farm business management program shows the existence of nine clubs, located in the counties of Annapolis, Colchester-East Hants (2), Digby, Cumberland, Hants (2), Kings, and Lunenburg.

Farm meetings were held in 15 different counties in 1965, when problems of management were discussed by the agricultural representatives and the specialists. Short courses in farm management were held in Kings and Hants counties. Several farm meetings were organized by the Nova Scotia Federation of Agriculture, when various aspects of farm management were discussed. At all the above kinds of meetings and courses, the average attendance was 23 persons. The total number of farmers involved was 323 of which 100 farmers were farm management club members.

PRINCE EDWARD ISLAND

Program Organization

The Extension Division of the Prince Edward Island Department of Agriculture has a staff of seven officers. The staff includes three agricultural representatives, one for each of the counties of Queens, Prince and Kings; a 4-H Club specialist; a horticultural specialist; a field crops specialist, and a farm management specialist. The work of the farm management specialist is varied but is an integral part of the overall extension activity of providing research information to farm operators.

Farm Record Keeping

The main activity in farm management extension has been associated with record keeping and analysis. The account book developed by the Economics Branch, Canada Department of Agriculture and the "Ontario Farm Record Book" are used. During the fiscal year ended March 31, 1965, approximately 250 farm account books were distributed. There are no formal farm accounting clubs, as such, in Prince Edward Island.

Farm Management Extension and Research

During the last few winters, farm management meetings and short courses have been held in any area of the province where an interest was evident. These were arranged by the agricultural representatives and conducted by the farm management specialist. Subjects discussed were farm record keeping, budgeting, farm business analysis and related topics. The sessions have normally been of two hours' duration and held at weekly intervals over four to six weeks in six to eight centers. Attendances have ranged from 10 to 15 persons a meeting.

During the winter of 1965-66, a special course in farm management analysis of 20 hours' duration was offered. This course was prepared by the Vocational Education Branch, Department of Labour, Ottawa. Meetings were held in four areas with attendances ranging from 10 to 30 a meeting.

The services carried out by the farm management specialist cover a variety of subjects and overlap with advisory work on production and general farm practices. However, the majority of farm calls concern farm accounts, farm credit, income tax, budgeting, or father-son arrangements. One of the important projects for farmers in the 1964-65 fiscal year was a one-day tour in June of outstanding farm operations in the province.

Two staff training sessions in farm management were carried out during the 1964-65 fiscal year. A one-day session on budgeting and a week-long course on farm management principles were conducted.

In addition to the direct farm management extension work with farmers, further information is provided in this area through daily five minute radio broadcasts and weekly newspaper articles. Other useful advice was disseminated through a television series of fifteen weekly programs of 15 minutes' duration during the winter of 1965-66.

ECONOMICS BRANCH, CANADA DEPARTMENT OF AGRICULTURE

The Economics Branch of the Canada Department of Agriculture does not have a direct farm management program with farmers, but co-operates with

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provincial departments of agriculture and universities in their programs by providing economic data and in undertaking joint studies. The main activity in farm management is research, which is of several types:

Descriptive

Surveys are conducted to determine how farms are organized, and the costs, returns and capitalization for various types and sizes of farms.

Problem Solving

Frequently studies of specific farm enterprises are conducted to answer questions which have arisen. Some of these are studies of the whole farm business but orientated to the problems of a particular area. Studies are also carried out on questions relating to federal programs.

Methodology

Studies are undertaken to develop new methods of analysis. These have included production function analysis; establishing depreciation rates for farm machinery; development of mail-in electronic data processing records in co-operation with the Farm Credit Corporation, and criteria for judging management and socio-economic characteristics of the farm population. As mentioned in the Ontario section, the Branch is participating in the development of a national mail-in records electronic data processing system.

In farm management research, the Branch frequently has joint projects with provincial departments of agriculture and with the universities. The extra-mural research program of the Canada Department of Agriculture is also used. In other cases, studies are carried out by Branch staff. Offices are located at Truro for the Atlantic region; Ottawa for headquarters and the Central region; Regina for the Prairie region, and Vancouver for British Columbia.

In addition to research, the Branch undertakes a number of other activities in the area of farm management. These include:

Research Co-ordination

The Branch prepares, from time to time, inventories of research in agricultural economics and occasionally sponsors national and regional meetings of economists. There is also the additional exchange of information and co-ordination involved in regular meetings with provincial economists on programs, visits of Branch personnel with all agencies engaged in research, as well as co-ordination involved in the extra-mural research program and joint research studies.

Basic Farm Management Tools and Guides

These have included publication of a farm account book in English and French, information on operating and leasing arrangements, transfers of farms from one generation to another, estate management information, and guides to starting farming in Canada.

Assistance to Provinces

The provinces consult with Branch staff in establishing and operating farm management programs. The Branch staff occasionally assists in setting up provincial programs and provides information for this purpose.

Contacts with Farmers

On request, the staff participates in meetings arranged by provincial and university officials.

FARM CREDIT CORPORATION

The Farm Credit Corporation is required to provide management supervision to Part III borrowers by virtue of Sections 25 and 27 of the Farm Credit Act. This provision was made when the Corporation replaced the Canadian Farm Loan Board in 1959. The latest revision of the maximum loan limits in June, 1964 raised the Part III loan limit to $55,000, which may be made on the security of land, livestock and equipment.

The farmer with a Part III loan application is required to develop a plan which he agrees to follow for the operation of his farm. He also has to keep accounts which are available for analysis by the farm service staff. As the loan progresses and the amount of debt is reduced to the level of a Part II loan, borrowers can be released from the supervision requirements, if desired. Borrowers may use provincial farm account books, the federal farm account book or the federal electronic farm accounting service which was introduced on a pilot plan basis in 1963. If there are provincial farm management clubs or associations in their areas, borrowers are encouraged to participate.

The analysis of the accounts provides information on the current physical and financial structure of each farm client. It also permits a comparison of the operations and income under the original plan with the present or anticipated performance and with similar information from other sources. These data constitute a valuable service to the individual borrower. The information is used by the Corporation as a check on its lending operations and as guidance for the assessment of future applications and the development of credit policy. Electronic data processing facilities are used in this research. A summary report is to be issued describing the operation of farms using the mail-in electronic data processing for 1966.

As of August 18, 1966 there were 1,824 FCC Part III clients keeping supervised farm account records. This is only a very small proportion of the active loan accounts of the Corporation.

Another phase of farm management which involves the field staff of the FCC is pre-loan counselling of applicant farmers of both categories (Part II or Part III). This advisory service, by developing sound farm plans, capital investment and repayment possibilities, is valuable in helping many farmers to obtain improved farm incomes.

It is believed that the farm accounting and general farm management advisory services provided by the Corporation increase the demand for extension information and facilities of provincial agencies. This applies to farm management as well as to physical production and technical information such as crop varieties, cropping practices, fertilizer use, machine use and operation, building plans, etc. The activities of the Corporation are regarded as supplementary and complementary to the provincial extension services. The major farm management concern of the Corporation is with borrowers who are in a marginal repayment position and to assure the best use of resources and public funds in the development and strengthening of these farms.

VETERANS' LAND ACT

The Veterans' Land Act contains the terms and conditions of making a loan to a veteran. A prerequisite, as laid down in the regulations, is that a veteran applying for a loan shall agree to keep farm records. Farm accounts must be kept as long as the indebtedness is more than 75 per cent of the security value of the real property.

To help the veteran meet these terms, the Veterans' Land Act provides assistance through its Farm Service Division and field staff. This includes the supplying of an appropriate farm account book, technical assistance by the credit adviser in setting up and supervising the accounts throughout the year and follow-up advisory services.

An expansion in the program of supervision of VLA farm accounts took place in 1962. About two-thirds of the farm businesses supervised and accounts analyzed are in the Prairie Provinces and one-sixth are in Ontario.

The analysis of the farm accounts is made by an appropriate agency of the provincial departments of agriculture or by agricultural economics departments at agricultural colleges. In these cases, the VLA supervised farm accounts are added to the farm accounts originating through the provincial or university farm business management program. The VLA pays the regular service charge made by the provincial agency. There is one main exception to this rule. In the Prairie Provinces, the VLA farm accounts are summarized by the VLA field staff, checked at the regional offices and analyzed by the Farm Service Division in Ottawa. This analysis has not yet been computerized.

The results of the analysis form the basis for discussions and advice by the field staff with the individual farmer. Comparisons are made with the averages of farms in the same classification and suggestions are made for improvement in farm organization, structure and operation. The annual reports and further research conducted by the Farm Service Division and the provincial agencies are used by the Veterans' Land Act Administration for guidance in appraisal, loaning policy and procedures.

MANPOWER TRAINING BRANCH, DEPARTMENT OF MANPOWER AND IMMIGRATION

In 1965, a farm management accounting course was developed by the Technical and Vocational Training Branch of the Canada Department of Labour and made available in both English and French to interested farm groups. This area of work was subsequently transferred to the newly-organized Department of Manpower and Immigration. In addition to this course, two other courses in farm cost accounting and farm law are now available, both of which are expected to fill a long-felt need. The farm

cost accounting course covers enterprise accounts and analysis, and the farm law course gives general legal interpretation on such matters as transactions, agreements, wills and estates.

The annual report, for the year ended March 31, 1966, of the government agency concerned indicates that six farm management accounting courses were held up to that date with 117 farmers participating. As mentioned in the section on Prince Edward Island, four of these courses were held in that province, with 75 participants; one course was held in Nova Scotia with 20 participants, and one course was in Ontario with 22 participants.

The material is offered to technical and vocational divisions or small business management training branches of the provincial departments of education. These courses are also offered to provincial departments of agriculture for staff training purposes. The course leader's guide and materials supplied to participants is Crown copyrighted and provides a step-by-step instruction of the principles involved in farm accounting.

NOTES AND REFERENCES

(*1*) *R. A. Stutt, An Inventory of Agricultural Economics Research in Canada, 1964 to 1966,* Economics Branch, Canada Department of Agriculture, Ottawa, February, 1967.

(*2*) ELFAC is a non-stock, non-profit organization organized by a group of economists in the northeastern United States. The headquarters is located at the University of Vermont, Burlington.

BEEF FEEDING IN EASTERN ONTARIO, 1964-65

A. M. Boswell

Beef production is an important segment of the agricultural economy of Ontario and has been expanding rapidly in recent years. Farm cash receipts from cattle and calves increased 102 per cent, or by $149 million, from 1956 to 1966 while total cash receipts from all farm products increased 73 per cent (*1*).

Earlier developments in the beef cattle industry in Ontario largely centered around a combined operation of rearing and finishing cattle, with relatively less emphasis on cattle feeding. Recent developments primarily associated with increased corn production have intensified the interest in cattle feeding operations and thus raise many new questions. From 1956 to 1966, corn acreage in Ontario, including shelled and for silage, increased from 791,793 to 1,239,923 acres, or 57 per cent (*2*).

The purpose of the study reported on in this paper was to conduct an economic analysis of the cattle feeding enterprise in Eastern Ontario. The specific objectives were to determine costs and returns per hundredweight of beef produced and to compare the factors affecting costs and returns.

Income from the feeder cattle enterprise fluctuates from year to year and from farm to farm. The variation in annual and seasonal returns is dependent upon the relation between three sets of values: (1) purchased price of the feeder; (2) cost of grain; and (3) price received for slaughter cattle. The variation among farms depends largely on resources and on the feeding program followed. The results presented are based on a comprehensive study made of costs and returns under actual farm conditions involving a selected group of 28 commercial cattle feeders.

THE STUDY AREA

The 28 farms in the study were located in the Counties of Carleton, Lanark and Renfrew in Ontario, and Pontiac County in Western Quebec (Figure 1). Much of the land in the area is best suited to production of pasture and forage crops. Most farmers in the area recognize this and practise grassland farming. Such a program calls for livestock enterprises that have high roughage-consuming ability. A cattle feeding enterprise based on the utilization of forage and pasture ranks high in this respect. Although the average cattle feeding enterprise in the study counties is small relative to some other areas, there is considerable interest in feeding cattle as a means of increasing farm income and in marketing pasture and forage crops.



Figure 1

PROCEDURE (*3*)

Information was secured from 28 cattle feeders of all expenses and receipts, including the purchases and sales of cattle and indicating the date, source, number of head, weight and value. The co-operating farmers also provided information on the amounts and values of purchased feed and of homegrown feed fed. The value placed on homegrown feeds was based on that reported by county to the Economics, Co-operatives and Statistics Branch of the Ontario Department of Agriculture and Food. The charge for pasture was based on the prevailing rates for pasture rental reported by the farmers interviewed and adjusted for their own pasture conditions. No labor data were collected due to the inability of operators to provide this information.

Three different marketing plans were analyzed. Group I consisted of those operators who purchased feeders by lots in the fall and who sold the same lots in the subsequent fall. Only four farms were included in this group due to the limited number of farmers in the area who practised this program. Group II included those farmers who purchased

feeders in the spring and market in the fall of the same year. Six farms were included in the second group. The cattle feeders in Group III followed a plan of replacement and sale of cattle on a year-round basis rather than the one-lot-a-year plan followed in Group I. This group was by far the most numerous in the area, with 18 farms included in the study. The 18 farms in Group III were in turn separated into nine high and nine low beef producing units, in terms of total volume of production per farm.

THE FARMS AND THE FARMERS

The 28 farmers included in this report specialized in cattle feeding and purchased 98 per cent of their feeder cattle. The number of cattle sold per farm averaged 164 head and ranged from a low of 32 to a high of 510 head. Thus the cattle feeding enterprise on these farms was a sizeable business and probably larger than the average of all cattle feeders in the study area. The 28 operators had farms averaging 303 acres and in addition rented an average of 37 acres per farm for pasture and hay.

Feeder cattle was the major type of livestock found on 24 of the 28 farms. The average number of other livestock on the 28 farms consisted of 314 head of poultry, 39 head of swine, three beef cows, two dairy cows and one horse.

Off-farm employment was an important source of income on 10 of the 28 farms. Two of the four farmers in Group I reported off-farm employment, five of the six in Group II, but only three of the 18 farmers in Group III. In Group II, more work was done by the operators off the farm than for the cattle feeding enterprise. Even though off-farm employment was an important source of income, the cattle feeding enterprise was the most important on 19 of the 28 farms and ranked second in importance on the remaining 9 farms. Off-farm employment was the major source of income on five farms, followed by swine on three farms and poultry on one farm.

TABLE 1—MONTHLY COMPARISONS OF GOOD FEEDER STEER PRICES AT WINNIPEG (F.O.B. EASTERN ONTARIO) WITH CHOICE SLAUGHTER STEER PRICES AT TORONTO, SIX AND TWELVE MONTHS LATER, 1963-1966

Buying Period	Good feeder steers, Winnipeg, f.o.b. Eastern Ontario[a]	Slaughter Price, Choice Steers, Toronto			
		6 Months Later		12 Months Later	
		Average Price	Price Margin	Average Price	Price Margin
	dollars per hundredweight				
1963					
April	26.37	24.81	−1.56	24.25	−2.12
May	26.25	24.50	−1.75	24.25	−2.00
June	26.41	23.74	−2.67	24.25	−2.16
September	24.85	23.85	−1.00	24.26	−0.59
October	24.30	24.25	−0.05	23.70	−0.60
November	23.72	24.25	0.53	23.26	−0.46
1964					
April	24.49	23.70	−0.79	24.00	−0.49
May	24.05	23.26	−0.79	24.91	0.86
June	23.93	23.50	−0.43	26.86	2.93
September	22.41	24.00	1.59	25.67	3.26
October	21.00	24.00	3.00	25.50	4.50
November	21.04	24.91	3.87	26.06	5.02
December	20.36	26.86	6.50	26.79	6.43
1965					
April	23.32	25.50	2.18	27.37	4.05
May	24.33	26.06	1.73	26.85	2.52
June	25.24	26.79	1.55	26.08	0.84
September	24.75	28.32	3.57	27.24	2.49
October	24.03	27.37	3.34	27.74	3.71
November	24.43	26.85	2.42	27.61	3.18
December	24.68	26.08	1.40	28.12	3.44
1966					
April	28.11	27.74	−0.37	27.24	−0.87
May	28.16	27.61	−0.55	27.50	−0.66
June	28.13	28.12	−0.01	28.33	0.20

[a]Includes average cost of $1.91 per cwt. as reported in study on feeder cattle shipped from Winnipeg to Eastern Ontario.
Source: *Livestock Market Review*, 1964, 1965 and 1966, Markets Information Section, Canada Department of Agriculture.

The average age of the 28 farm operators was 51 years, with 65 per cent of the farmers over 50 years of age. The average total debt on the 28 farms amounted to $11,683, with Group I averaging $21,050, Group II $3,400, and Group III $12,375 per farm. Loans for the purchase of feeder cattle and feed accounted for 70 per cent of the total debt on the 28 farms. Investment in land and buildings followed a similar pattern and averaged $41,000 for Group I, $18,000 for Group II, and $23,000 for the 18 farms in Group III. The variation in investment and indebtedness appeared to be directly associated with the age of the operator, which averaged 46 years for Group I farms, 59 years for Group II, and 49 years for the 18 farms in Group III.

PRICE MARGINS

Variation in price margins (difference between buying and selling price per 100 pounds) is an important factor affecting returns for cattle feeders. The price margins presented in Table 1 illustrate the speculative nature of the cattle feeding enterprise from one season and year to another. The farmers taking part in the study secured their feeder cattle from a variety of sources, but the price quotations given for selected months from the fall of 1964 to the fall of 1965 are representative of price trends during the period under analysis.

Beginning in April, 1963, the data in Table 1 compare monthly prices of good feeder steers at Winnipeg (f.o.b. Eastern Ontario), with monthly prices of choice slaughter steers at Toronto, lagged six and twelve months respectively. To be applicable to an Eastern Ontario cattle feeder, transportation, feed and commission charges, which reduce his price spread, must also be taken into account. These charges on a per hundredweight basis from Winnipeg to Eastern Ontario averaged: commission, 25¢; feed, 14¢; transportation, $1.49; and other, 0.03¢, for a total of $1.91. The range was from a low of $1.83 to a high of $2.14, depending largely on the number of head shipped per lot.

The data in Table 1 show that a negative price margin existed during 1963 compared with fed cattle prices six and twelve months later. For those cattle feeders purchasing feeders during the period of study from the fall of 1964 and throughout 1965, a positive price margin was experienced with fed cattle prices six and twelve months later. Beginning in 1966, feeder cattle prices moved up sharply.

TABLE 2—PRICE MARGIN AND RETURNS TO LABOR AND MANAGEMENT FOR THREE GROUPS OF CATTLE FEEDING OPERATIONS, EASTERN ONTARIO, 1964-1965

	Group I	Group II	Group III, Year Round Buying and Selling Fall 1964 to Fall 1965		
	Purchased Fall 1964, Sold Fall 1965	Purchased Spring 1965, Sold Fall 1965	Lowest Production Farms	Highest Production Farms	Average All Farms
Number of farms	4	6	9	9	18
Beef gained per farm (lb.)	47,488	19,127	37,855	73,525	55,690
Beef sold per farm (lb.)	116,511	92,153	146,888	283,942	215,415
			dollars per hundredweight		
Price paid (incl. opening inventory)	20.71	21.36	20.62	20.33	20.48
Price received (incl. closing inventory)	25.52	23.45	23.38	23.32	23.35
Price margin	+4.81	+2.09	+2.76	+2.99	+2.87
			dollars per farm		
Receipts					
Current receipts	29,567	21,805	35,185	66,671	50,928
Livestock inventory increase	1,484	—	21	6,926	3,473
Total receipts	31,051	21,805	35,206	73,597	54,401
Expenses					
Current expenses[a]	27,017	19,744	33,265	66,240	49,753
Livestock inventory decrease	—	523	—	—	—
Total expenses	27,017	20,267	33,265	66,240	49,753
Returns to labor[b], capital and management	4,034	1,538	1,941	7,357	4,648
Interest on investment in building and equipment (5%)	604	76	344	503	423
Returns to labor and management	3,429	1,462	1,597	6,854	4,226

[a]Includes interest on feed and livestock loans and depreciation; excludes labor.
[b]All labor—paid and unpaid and operator's labor.

FEEDER ENTERPRISE ANALYSIS

Overall Profitability

The data in Table 2 summarize the production year business and tell the story on the profitability of the feeder cattle enterprise. In the financial statement, current receipts comprises cash income plus inventory increases. On the expense side, variable and fixed costs are included plus decreases in inventory. The value of unpaid family labor, including the operators' and hired farm labor, was not accounted for in expenses.

The largest beef producing units (those farms having the most pounds of beef gained and sold per farm) were in Group III and the smallest were in Group II. Total farm receipts from the cattle feeding enterprise averaged $31,051 for the four farms in Group I, $21,805 for the six farms in Group II, and $54,401 for the 18 farms in Group III. Total farm expenses for the cattle feeding enterprise followed a similar pattern, averaging $27,017 for Group I, $20,267 for Group II, and $49,753 for Group III. Interest on capital invested in buildings and equipment levied at a rate of 5 per cent further reduced the spread in average returns to labor and management between Group II and the averages for Groups III and I. In Group II, the cattle were purchased in the spring and grazed on pasture for fall marketing with virtually no stable time required.

The price margins per 100 pounds for the three groups of cattle feeding operations were all positive in the study period and for Group I, II and III averaged $4.81, $2.09 and $2.87, respectively (Table 2). The higher price margin in Group I was primarily due to time of marketing and higher grades, reflecting a higher proportion of Western feeders fed.

Costs and Returns a 100 Pounds of Gain

The cost of producing beef per 100 pounds of gain averaged $24.71 for Group I, $24.59 for Group II, and $28.06 for Group III. Returns to labor and management per 100 pounds of gain was $8.37 for Group I, $8.86 for Group II, and $6.61 for Group III. Feed costs, including pasture, was the most important cost factor for all three groups of cattle feeding operations, varying from 67 to 80 per cent of total costs. Beef gain was cheapest in Group II where the feeding program was primarily based on pasture. Although the feeding programs in Group I and Group III were somewhat comparable, the higher feed costs for Group III reflect heavier beef animals and, as a result, increased feed per pound of gain. In Groups I and II, feed cost was

TABLE 3—COSTS AND RETURNS FOR THREE GROUPS OF CATTLE FEEDING OPERATIONS, EASTERN ONTARIO, 1964-1965

	Group I	Group II	Group III, Year Round Buying and Selling Fall 1964 to Fall 1965		
	Purchased Fall 1964, Sold Fall 1965	Purchased Spring 1965, Sold Fall 1965	Lowest Production Farms	Highest Production Farms	Average All Farms
Number of farms	4	6	9	9	18
Beef gained per farm (lb.)	47,488	19,127	37,855	73,525	55,690
Beef sold per farm (lb.)	116,511	92,153	146,888	283,942	215,415
	dollars per hundredweight of gain				
Feed—Homegrown	8.45	0.29	10.07	5.52	7.80
Purchased	5.72	7.73	9.90	13.89	11.89
Pasture	3.09	8.49	3.60	2.22	2.91
Veterinary and drugs	0.20	0.11	0.11	0.12	0.12
Buildings and equipment (incl. depreciation)	1.97	0.79	2.24	1.55	1.89
Interest on loans (livestock and feed)	1.76	1.17	0.91	1.04	0.98
Marketing—Buying cost (incl. transportation)	2.86	4.83	1.92	1.31	1.62
Selling cost (incl. transportation)	0.42	0.65	0.49	0.61	0.55
Miscellaneous	0.24	0.53	0.42	0.18	0.30
Total cost per hundredweight of gain	24.71	24.59	29.66	26.44	28.06
Value per hundredweight of gain[a]	34.40	33.75	34.29	36.90	35.60
Returns to labor, capital, and management	9.69	9.16	4.63	10.46	7.54
Interest on investment in building and equipment (5%)	1.32	0.30	1.20	0.69	0.93
Returns to labor and management	8.37	8.86	3.43	9.77	6.61

[a]The value per hundredweight of beef gained is the value of the total weight gained (the value of the increase from feeding) divided by the corresponding total weight increase from feeding.

TABLE 4—COMPARISON OF MANAGEMENT FACTORS FOR THREE GROUPS OF CATTLE FEEDING OPERATIONS, EASTERN ONTARIO, 1964-1965

	Group I	Group II	Group III, Year Round Buying and Selling Fall 1964 to Fall 1965		
	Purchased Fall 1964, Sold Fall 1965	Purchased Spring 1965, Sold Fall 1965	Lowest Production Farms	Highest Production Farms	Average All Farms
Number of farms	4	6	9	9	18
Beef gained per farm (lb.)	47,488	19,127	37,855	73,525	55,690
Beef sold per farm (lb.)	116,511	92,153	146,888	283,942	215,415
			averages per farm		
Head bought and opening inventory (no.)	135	84	186	405	296
Days on farm (no.)	332	155	206	159	181
Purchase weight (lb.)	582	919	765	786	776
Sales weight (lb.)	1,010	1,142	1,081	1,057	1,069
Gain per head (lb.)	428	223	316	271	293
Gain per head per day (lb.)	1.29	1.44	1.53	1.70	1.62
Death losses (no.)	1.25	—	1.55	1.33	1.44
Head of cattle—Per cent western	80	46	34	23	26
Per cent local	20	54	66	77	74
			proportion of feed fed per hundredweight of gain (per cent of total[a])		
Grains and other concentrates	12	39	30	50	38
Hay	16	61	33	33	33
Corn silage	72	—	37	17	29

[a]Excluding pasture.

followed by buying cost in relative importance. In Group III, feed cost was followed by depreciation charges and then buying cost in relative importance in total cost. The higher buying cost was directly associated with the proportion of beef tonnage originating from feeder cattle purchased in Western Canada.

FACTORS ASSOCIATED WITH TYPE OF ENTERPRISE

The data in Table 4 serve to illustrate the comparative importance and variations among the three groups of cattle feeding operations in length of feeding period, purchase and sale weight, gain and proportion of feed used.

Length of Feeding Period

In calculating the average days on farms, the date and number of head of each purchase and sale were taken into account to get the average shown. The purchase and sale weight shown in Table 4 accounts for those cattle purchased and sold during the period of study. Daily gain per head was computed from the gain per head divided by the number of days on farm during the study period.

Daily gains were greatest for the cattle in the nine high producing beef farms in Group III. These nine operators fed more grain and concentrates than were fed to cattle on the nine low producing farms in Group III or the amounts fed in Groups I and II. Although wide variations existed in days on farm, gain and purchase weight, the weight at sale did not differ significantly between the three groups.

Feeding

Most of the farmers surveyed adapted their feeding program to farm supplies of roughage and pasture with the feeding of grain and concentrates depending largely upon the quality and amount of pasture available.

In Group I, the cattle were purchased in the fall and wintered largely on roughage and corn silage, pastured in the summer and then in September worked up to full feed with additions of grain and concentrates for late fall marketing. In Group II, the cattle were purchased in the spring and grazed on pasture, with or without a limited amount of grain and then in September full fed on grain and concentrates for early fall marketing. The feeding program in Group III varied widely between farms. In this group, cattle were purchased at relatively heavier weights compared with Group I and, therefore, spent fewer days on farms. Winter feeding consisted largely of roughage and corn silage with grain and concentrates provided for those cattle approaching market weight. Throughout the summer and fall, the cattle were grazed, with or without

TABLE 5—COMPARISON OF RETURNS FROM FEEDING, THREE GROUPS OF CATTLE FEEDING OPERATIONS, EASTERN ONTARIO, 1964-65

	Group I	Group II	Group III		
			Low	High	All
Number of farms	4	6	9	9	18
			averages per farm		
Purchase weight (lb.)	582	919	765	786	776
Gain per head (lb.)	428	223	316	271	293
Days on farm (no.)	332	155	206	159	181
			dollars per hundredweight		
Price paid (incl. opening inventory)	20.71	21.36	20.62	20.33	20.48
Price received (incl. closing inventory)	25.52	23.45	23.38	23.32	23.35
Price margin[a]	4.81	2.09	2.76	2.99	2.87
Return over feed cost from feeding[b]	8.26	6.94	−0.19	1.69	0.75
Return over feed cost[c]	17.14	17.24	10.72	15.27	13.00

[a]Price margin is the selling price per hundredweight of slaughter cattle minus purchase price per hundredweight of feeder cattle.

[b]Selling price per hundredweight of slaughter cattle minus feed cost of gain per hundredweight. This is commonly referred to as the "Feeding Margin".

[c]This is the difference between the selling price of the gain in weight (value per hundredweight of gain) and the cost of the feed to put on that gain.

grain and concentrates, depending on the weights of the cattle.

The feeding program on most of the farms surveyed had not been systematized for the most part. No real attempt had been made by the farmers to determine precise feeding requirements and alternative methods of meeting these requirements.

Returns from Feeding

The data in Table 5 serve to illustrate the comparative importance of feed costs in determining cattle feeding profits for cattle of different beginning weights, gain in weight and length of feeding period.

Returns from feeding were highest for Group I. In this group, feeders were purchased at lighter weights and fed for a longer period of time for more gain in weight than for the comparable feeding program in Group III. In Group I, feed cost per hundredweight of gain is relatively more important than for Groups II and III, since 42 per cent of the weight sold was gain, compared with 20 per cent for Group II and 27 per cent for Group III. In Groups II and III where feeder cattle were purchased at comparatively heavier weights, profit depends more on skillful buying and selling than on feeding margins since a large proportion of their selling price is derived from resale of purchase weight.

Land Utilization

Farmers in Group I who followed a one-lot-a-year program, had an average farm size of 289 acres of land, while farms in Groups II and III averaged 176 and 345 acres, respectively (Table 6). Acres of land rented were greatest in Group II and were used equally for hay and pasture. For Group I, rented land was used mostly for hay, but in Group III it was used mainly for pasture. The pattern of overall land use was quite similar for Groups I and III. Hay or pasture was the major crop for all three groups, followed by grain and corn in Groups I and III. In Group II, where farmers purchased their feeder cattle in the spring and sold in the subsequent fall, no grain or corn was grown.

TABLE 6—LAND UTILIZATION, THREE GROUPS OF CATTLE FEEDING OPERATIONS, EASTERN ONTARIO, 1965.

	Group I	Group II	Group III
Number of farms	4	6	18
		acres per farm	
Improved			
Grain	44	—	38
Corn silage	25	—	13
Hay	58	4	107
Pasture	77	102	78
Total improved	204	106	236
Unimproved			
Rough pasture and bush	62	31	44
Woods	23	39	65
Total unimproved	85	70	109
Total farmland	289	176	345
Rented land	12	67	33
Total land operated	301	243	378

TABLE 7—SOURCE AND DISPOSITION CHANNELS, 28 CATTLE FEEDING OPERATIONS, EASTERN ONTARIO, 1964-65

Source	No.	Per Cent	Disposition	No.	Per Cent
Local					
Auctions	2,276	35.8	Direct to Packers	3,498	76.1
Farmers	1,539	24.2	Drovers	462	10.1
Dealers	229	3.6	Public Stockyards	333	7.2
Home-raised	130	2.0	Local Farmers	190	4.2
Western Canada	2,004	31.5	Livestock Auctions	111	2.4
Others[a]	184	2.9			
Total	6,362	100.0		4,594	100.0

[a]Includes 87 head from New Brunswick and 97 head from Manitoulin District, Ontario.

A wide variation existed in the quality of pasture within and between the 28 farms in the study area. Excluding rough pasture, permanent pasture comprised an average of 40 per cent of the land area in pasture on all farms. Generally, farmers in Group II had rougher topography but relatively more acres of pasture per head of feeder cattle than the farms in Group I or Group III. Pasture land in Group II had received less fertilizer treatment and was less productive. Sixteen of the 28 farmers applied an average of 130 pounds of fertilizer to an acre of permanent pasture. All of the farmers applied fertilizer to their corn acreage and most applied fertilizer to their grain.

SOURCES OF FEEDER CATTLE

One of the most important factor costs in the cattle feeding enterprise is the feeder cattle. There were wide variations among the farms in the kind and quality of feeder cattle purchased. Many of the 28 farmers said that they purchased feeder cattle from a particular market because it sold the kind of cattle preferred, was conveniently located, or provided a desired service. The majority of the farmers surveyed aimed to select lower grade feeders of beef strains that would "up grade" efficiently.

Including the cattle on farms at the beginning of the study year and those purchased throughout the study period, 64 per cent were from local sources, two per cent were home-raised, and 31.5 per cent were purchased in Western Canada (Table 7). Livestock auctions in Lanark, Carleton and Renfrew Counties accounted for the major channel through which farmers purchased local feeders. Most of the feeder cattle obtained in Western Canada were purchased through commission firms located at the Winnipeg stockyards. Some feeders were purchased as far west as Saskatchewan and some as far east as New Brunswick.

Over 80 per cent of the western feeders purchased were Hereford steers and most were Common Grade. Nearly 60 per cent of the local cattle purchased were Herefords, with cross-bred feeders and a few Holstein steers making up the balance. The quality of feeders purchased from Western Canada was, on the whole, higher than that from local sources.

Comments with respect to the purchase weight of feeder cattle varied among farmers. Factors in favor of heavier feeders were: quick turnover, better use of pasture and roughage, less health problems, more local feeders available at heavier weights and the preference for making profit more from price movement than from feeding.

DISPOSITION OF SLAUGHTER CATTLE

Direct deliveries to packing plants accounted for 76 per cent of the 4,594 cattle marketed by the 28 cattle feeders on the study (Table 7). This marketing practice was followed, in order of importance, by sales to drovers, public stockyards, local farmers for further feeding and livestock auctions located in the study area. The marketing transaction occurred mainly on the farm.

SUMMARY AND CONCLUSIONS

The returns to labor and management shown in this study were favorable, but this was partly due to the sharp upward movement in cattle prices which occurred in the study period. For cattle of heavier weights, the effects of price changes are greater on the selling side than on the buying side. Somewhat offsetting the favorable price margins during the study period were two unfavorable crop years in Eastern Ontario resulting from severe drought conditions. However, in spite of positive price margins, total expenses (excluding labor) were equal to 90 per cent of total receipts for all 28 farms, indicating the narrow margin of profit for farm feeding systems.

In Group III, economies of size are evident between the nine low and nine high beef producing farms in cost per 100 pounds of gain. These economies are reflected mainly in reduced unit average overhead expenses and a higher stocking rate of pasture. The data did not provide an adequate basis for determining just how much cost factors would vary with size in the analysis because of the limited number and wide variation in practices followed by the cattle feeders.

Low feed costs are an important determinant of profits for all types of cattle feeding programs, since feed makes up 70 to 80 per cent of total cost. This is especially the case for light weight cattle. In Group I, feeder cattle were purchased at comparatively lighter weights and thus required longer feeding periods to reach market weight. Consequently, efficiency of feeding is highly important in determining feed cost since a large proportion of the weight sold is gain.

Price margin is another important factor determining profits and becomes relatively more important for cattle that are purchased at heavier weights. Feeder cattle in Groups II and III were heavier at purchase than Group I cattle. Therefore, a high proportion of their selling price was derived from resale of purchase weight.

Over half of the farmers interviewed expressed the feeling that livestock auctions in the area had facilitated the buying of feeder cattle in terms of price information and supply of feeders available. On the other hand, the farmers generally indicated that livestock auctions were inadequate outlets for slaughter cattle and they felt that present marketing practices needed improvement. With the transaction being made mostly at the farm, information on carcass grades was difficult to obtain since three-quarters of the cattle sold for slaughter went direct to plants. As a result, it was not possible to make comparisons of grades with results presented in this report.

The study suggests that the effective utilization of resources available, particularly pasture, forage and labor, appeared to be more important in operating a successful beef feeding operation than the system of handling the enterprise. Two-thirds of the farmers contacted mentioned that they fed cattle, due to the low labor requirements. Also, the enterprise allowed them to participate in off-farm work. Half of the 28 farmers indicated that they had previously been engaged in a dairy enterprise. Although no labor data were recorded, lower labor requirements were evident for Group II compared with Groups I and III. This difference is largely explained by the fact that wintering cattle increased the labor requirements.

All of the feeding systems analyzed in this report relied on pasture as their basic feed. Consequently, land values, which the farmers indicated had increased rapidly, were an important overhead cost. Although barley and mixed grain acreages had declined in the study area, the growing of corn had increased rapidly. Some farms in the area were more suited to the growing of corn than others. This variation was also evident in the quality of pasture and hay on farms.

Nearly all of the farmers interviewed were fully utilizing their hay and pasture land. However, equipment and in particular buildings were in some cases not being used to full capacity. This was especially noted on farms in Group I.

Due to the variety of farm resources available in Eastern Ontario, no one single farm feeding operation can be said to be best suited to all farms. On many farms, opportunities exist for a cattle feeding enterprise where adequately financed and managed. Such operations can utilize feeders from local sources. With the closely located markets of Ottawa, Hull and Montreal growing rapidly, a good outlet for slaughter cattle exists. However, one factor emphasized by the majority of producers contacted was the limited supply and quality of feeder cattle both within and adjacent to the area. The fact that one-third of the feeders were purchased outside the area, with their origin as far west as Saskatchewan and as far east as New Brunswick and that marketing costs of moving feeder cattle into the area ranked high as an expense, validates this viewpoint. Another important factor which influences the feeding program in the area is the availability of pasture. The fact that the 28 farmers rented an average of 37 acres per farm points out that their owned properties were inadequate in size to support a beef feeding enterprise which is dependent heavily on forage.

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CANADIAN AGRICULTURE AND THE KENNEDY ROUND

In order to broadly assess the results of the Kennedy Round negotiations as they affect Canadian agriculture, it is necessary to place them against the background of the size and pattern of Canada's agricultural trade. The annual value of Canada's agricultural exports is about $1,600 million. Approximately $1,000 million of these exports is accounted for by wheat, wheat flour and coarse grains. The largest component is wheat which amounts to about $850 million.

The negotiations on wheat in the Kennedy Round have led to an increase of 21¢ per bushel in the minimum and maximum price for wheat over that set under the 1962 International Wheat Agreement. The new minimum price of $1.95½ per bushel for No. 1 Northern in store at the Lakehead should permit generally higher prices to be realized by wheat producers over the next few years. In contrast with the International Wheat Agreement, which specified a minimum and maximum price only for No. 1 Northern, the schedule in the Kennedy Round Cereals Agreement identifies 10 major grades of wheat with agreed minimums and maximums.

Agricultural products other than cereals make up about $600 million in exports. About half of this now enters world markets free of duty and is not affected by the negotiations. The balance, some $300 million of exports sold largely to the United States, represents that export volume of non-cereal products on which tariffs and other barriers to trade were subject to negotiation in the Kennedy Round. Tariff concessions of benefit to Canada were negotiated on about $110 million of this. In total then, of $1,600 million of Canadian agricultural exports, benefits were received as a result of the negotiations on about $960 million or 65 per cent.

On the import side, agricultural products amount to about $1,000 million. Of this, slightly less than half enters Canada duty-free at the present time. This is divided about equally between the United States and Commonwealth sources. When imports of sugar and coarse grains (largely corn) are deducted from dutiable imports, as they did not form part of the negotiations, the volume of dutiable imports remaining for possible tariff reductions was about $240 million. (Of this, Canada made tariff concessions on about $200 million, including $120 million for temperate agricultural products and $80 million for tropical products.) To this, of course, must be added the value of exporter commitments undertaken as part of the new cereals agreement, in order to determine the overall Canadian contribution to the negotiations.

Canada-USA Negotiations

Canadian negotiations on agricultural products other than cereals were conducted largely with the United States. Negotiations with other countries, principally the European Economic Community, the Nordic countries, Japan and Switzerland, because of the nature of Canadian agricultural exports to these countries, focused mainly on a few individual commodities in contrast with the broad coverage of the negotiations with the USA. Tariff reductions of benefit to Canada from these countries covers trade amounting to about $15 million.

The total of Canada's dutiable agricultural exports to the USA in 1966 amounted to about $225 million. Of this, the USA has made tariff cuts averaging 60 per cent on approximately $95 million. On about $29 million of this trade, the tariff has been cut to zero. The major products, exports of which were $1 million or over in 1966, on which USA tariff cuts were negotiated are as follows:

(a) *Free entry*—maple sugar and maple syrup, fresh apples, fresh raspberries, turnips, a number of grass and forage seeds, cattle hides and skins, bran, shorts and middlings, brewers' grains, grain screenings and other grain milling by-products and animal feeds,

(b) *50 per cent tariff reduction*—fresh and frozen pork, dairy cattle, fresh and frozen blueberries, currant and berry jams and jellies, fresh carrots, other grass and forage seeds, mustard seed and sunflower seed.

The largest part of the some $130 million of Canadian dutiable exports to the USA on which tariff reductions were not negotiated is accounted for by live beef cattle, fresh and frozen beef, coarse grains, potatoes and cured pork. No duty reductions were made in the corresponding items in the Canadian tariff.

On the Canadian tariff side of the negotiations generally, most of the reductions made were a result of negotiations with the USA and, with the exception of tropical products, tariffs were reduced on only a small number of products as a result of agreements with other countries. This of course reflects the small agricultural component in our trade with these countries.

The largest import items on which reductions in the Canadian tariff were made vis-à-vis the

USA relate to citrus juices, fresh pork, grass and forage seeds, apples, feeds, cigar wrapper tobacco, hops, animal fats, dried vegetables, certain fresh vegetables and a number of other products such as rice, raisins, and processed coffee.

As a general outcome of the Canada-USA negotiations in the Kennedy Round, after the full implementation of the tariff reductions negotiated, about 30 per cent of Canadian agricultural exports to the USA, Canada's largest dutiable export market, will enter that country duty-free and the average USA duty on the balance of our agricultural exports will be about six per cent.

On the Canadian side, the average rate on dutiable agricultural imports from the USA will be about nine per cent after full implementation of the Kennedy Round results with about 45 per cent of USA exports entering Canada duty-free.

United Kingdom

In the United Kingdom market the main result of the negotiations was a narrowing of the preference enjoyed by Canadian exports on about $70 million or about 45 per cent of our preferential trade. The most important products in terms of export value affected are soybean oilcake and meal, soybeans, fancy meats, dried beans, tomato juice, canned and frozen corn and tobacco. The narrowing of the Commonwealth preference by 25 per cent on tobacco is contingent upon the USA eliminating the American Selling Price system of evaluation on certain chemicals.

The general level of the preference remaining on most of our agricultural exports to Britain, after full implementation of the negotiated MFN rates, will be about 10 per cent.

TABLE 1—MAJOR U.S.A. AGRICULTURAL TARIFF REDUCTIONS OF INTEREST TO CANADA

TSUS Item	Brief Product Description	Present Rate	Negotiated Rate	U.S. Imports from Canada, 1966
				($U.S. 000)
100.50	Dairy cows	1.5¢/lb	0.7¢/lb	5,455
100.73	Horses not over $150. each	$5.50 each	$2.75 each	63
100.75	Horses, over $150. each	6.75%	3%	609
100.81	Live sheep	75¢ each	Free	181
100.85	Live swine	1¢/lb	0.5¢/lb	679
100.95	Other live animals	7.5%	3.5%	2,238
105.60	Eviscerated geese and ducks	10¢/lb	5¢/lb	17
106.30	Fresh lamb	3.5¢/lb	1.7¢/lb	15
106.40.20	Fresh pork	1.25¢/lb	0.5¢/lb	1,036
106.40.40	Frozen pork	1.25¢/lb	0.5¢/lb	16,447
106.80	Edible meat offal not over 20¢/lb	1¢/lb	0.5¢/lb	63
106.85	Edible meat offal over 20¢/lb	5%	2.5%	388
107.10	Pork sausages, fresh	3.25¢/lb	1.6¢/lb	184
107.50	Beef in airtight containers	15%	7.5%	63
107.80	Meat extracts	3.75¢/lb	1¢/lb	28
119.50	Poultry eggs (except chicken)	5¢/doz.	3.5¢/doz.	725
120.13.60	Bovine hides and skins	4%	Free	1,261
124.25	Furskins, dressed, not dyed	5.5%	2.5%	935
125.40	Seedlings, layers, and cuttings of fruit trees and other fruit tree stock	$2/1000	Free	83
125.80	Live plants suitable for planting n.s.p.f.	10%	7.5%	58
126.23	Alsike clover seed	2¢/lb	1¢/lb	774
126.27	Red clover seed	2¢/lb	1¢/lb	388
126.29	Sweet clover seed	0.8¢/lb	0.4¢/lb	672
126.31	White and ladino clover seed	3.2¢/lb	1.6¢/lb	52
126.35	Creeping red fescue seed	1¢/lb	0.5¢/lb	3,277
126.37	Meadow fescue seed	0.5¢/lb	Free	193
126.57	Millet	0.4¢/lb	0.3¢/lb	55
126.77	Rye grass seed	1.25¢/lb	1¢/lb	36
126.85	Timothy seed	0.5¢/lb	Free	274
126.87	Tree and shrub seed	1¢/lb	Free	177
126.95	Wheat grass seed	0.4¢/lb	Free	209
127.01	Grass seeds and other forage seeds n.s.p.f.	0.4¢/lb	Free	648
130.30	Certified seed corn	12.5¢/bu	6¢/bu	545
135.30	Fresh cabbage	0.75¢/lb	0.55¢/lb	24

TABLE 1—MAJOR U.S.A. AGRICULTURAL TARIFF REDUCTIONS OF INTEREST TO CANADA (Continued)

TSUS Item	Brief Product Description	Present Rate	Negotiated Rate	U.S. Imports from Canada, 1966
				($U.S. 000)
135.40	Fresh carrots	12.5%	6%	1,298
135.20	Fresh beets	5%	Free	10
135.50	Fresh cauliflower, June 5–October 15	11%	5.5%	13
136.60	Lettuce, June 1—October 31	0.85¢/lb	0.4¢/lb	11
136.90	Onion sets	1.25¢/lb	0.6¢/lb	32
137.40	Radishes	12.5%	6%	74
137.66	Turnips or rutabagas	5¢/100 lb	Free	1,779
137.70	Parsnips	25%	12.5%	50
140.46	Dried peas, whole	0.75¢/lb	0.37¢/lb	11
140.50	Potatoes, dried, desiccated etc.	2.75¢/lb	1.3¢/lb	40
140.70	Potato flour	2.5¢/lb	1.2¢/lb	33
146.10	Fresh apples	0.25¢/lb	Free	2,313
146.50	Fresh blueberries	0.7¢/lb	0.3¢/lb	2,905
146.54	Raspberries and loganberries, July 1 to August 31	0.5¢/lb	Free	1,044
146.68	Frozen blueberries	6%	3%	213
146.70	Canned blueberries (including pie-filler)	7%	3.5%	21
146.72	Canned and frozen berries (including pie-filler) n.s.p.f.	14%	7%	86
146.90	Fresh cherries	0.5¢/lb	0.2¢/lb	438
146.98	Frozen cherries	7¢/lb+10%	3.5¢/lb+5%	20
147.64	Fresh grapes	12.5¢/cu.ft.	6¢/cu.ft.	576
148.70	Fresh peaches, June 1—Nov. 30	0.5¢/lb	0.2¢/lb	20
153.04	Currant and other berry jams and jellies	6.5%	3%	1,016
153.32	Other jams and jellies	14%	7%	110
155.50	Maple sugar	2¢/lb	Free	2,841
155.55	Maple syrup	1.5¢/lb	Free	3,198
161.61	Mustard seed	0.875¢/lb	0.43¢/lb	3,114
165.15	Apple or pear juice	0.5¢/gal	Free	106
165.40	Grape juice	50¢/gal	25¢/gal	40
175.51	Sunflower seed	0.8¢/lb	0.4¢/lb	1,171
176.55	Sunflower oil	1.8¢/lb+8%	0.9¢/lb+4%	19
177.56	Tallow	0.875¢/lb	0.43¢/lb	53
182.20	Biscuits, cakes, etc.	6%	3%	6,071
182.30	Cereal breakfast foods	5%	2.5%	418
182.35	Macaroni, noodles, etc. without egg	1¢/lb	0.5¢/lb	925
182.36	Macaroni, noodles, etc. with egg	1.5¢/lb	0.7¢/lb	105
182.52	Soups and soup preparations, not containing oysters	14%	7%	46
182.70	Wild rice	5%	2.5%	258
182.91	Edible preparations, n.s.p.f.	20%	10%	935
184.10	Bran, shorts and middlings	2.5%	Free	2,477
184.25	Brewers' and distillers' grains and malt sprouts	$1.10/ton	Free	3,151
184.30	Hay	60¢/ton	Free	303
184.35	Straw	50¢/ton	Free	6
184.40	Grain hulls	2.5¢/100 lb	Free	253
184.45	Flaxseed screenings	0.5%	Free	664
184.47	Other screenings	2.5%	Free	2,683
184.61	Animal feed, raw meat, other than horsemeat	5%	Free	113
184.65	Animal feed, meat, prepared or preserved	8%	4%	2,826
184.70.20	Pet food obtained from milling by-products, packaged for retail sale	2.5%	Free	457
184.70.70	Other milling by-products	2.5%	Free	1,898
184.75	Animal feeds and ingredients, nspf	10%	7.5%	94
186.15	Feathers and downs	20%	15%	118
192.50	Peat moss	25¢/ton	Free	174
306.&307.	Raw wool	23% AVE	11.5% AVE	344

TABLE 2—MAJOR AGRICULTURAL TARIFF REDUCTIONS OF INTEREST TO CANADA MADE BY COUNTRIES OTHER THAN U.S.A.

BTN	Brief Product Description	Present Rate	Negotiated Rate	Canadian Exports 1966 ($000)
EUROPEAN ECONOMIC COMMUNITY				
02.01.B.II	Edible offals:			
(96)	of beef and pork—livers	20%	14%	1,525
	—other	20%	12%	
02.06 A	Cured meats:			
(10)	horsemeat	16%	13%	404
04.06	Honey	30%	27%	64
07.01 A	Potatoes:			
(11)	for seed	10%	9%	823
07.02	Frozen vegetables	19%	18%	200
07.05 A	Dried peas and beans	9%	4.5%	149
12.03 B.II	Seeds for sowing:			
(93)	grass seeds	8%	6%	536
(96)	clover seeds	5%	4%	799
15.02 A	Tallow	2%	Free	1,589
20.02 G	Other canned vegetables (green and wax beans)	24%	22%	2,245
20.06 B.II.b)	Canned cherries	25%	24%	337
21.07	Canned corn	25%	20%	33
24.01 B	Raw tobacco	28%	23%	1,572
		min. 29 UC/100 kg max. 38 UC/100 kg	min. 28 UC/100 kg max. 33 UC/100 kg	
NORDIC COUNTRIES				
05.04 B	Natural sausage casings	0.45–4.50k/kg	Free	162
39.03 } 39.04 (Norway)	Synthetic sausage casings	15%	7.5%	
08.06 (Denmark)	Apples and pears	Removal of import restrictions December 31, 1969		
20.01	Pickles and relishes	25 kr/100 kg	20 kr/100 kg	119
21.04 (Sweden)	Pickles and relishes	8%	4%	
20.02.199 (Sweden)	Canned beans	25 kr/100 kg	20 kr/100 kg	89
24.01.101 (Finland)	Tobacco, raw	45m./kg	22.5m./kg	19
05.14.01	Animal materials for drugs	3 Fr/100 kg	1.5 Fr/100 kg	247
41.01	Hides and skins, raw	0.20; 0.50 Fr/100 kg	0.10; 0.30 Fr/100 kg	127
43.01.01	Furs, raw	0.50 Fr/100 kg	0.30 Fr/100 kg	2,526
JAPAN				
15.02–1	Tallow	4%	2.5%	1,667
43.01–3	Fur skins	10%	5%	200

TABLE 2—MAJOR AGRICULTURAL TARIFF REDUCTIONS OF INTEREST TO CANADA MADE BY COUNTRIES OTHER THAN U.S.A. (Continued)

Tariff Item Number		Present UK Tariff		Negotiated MFN rate	UK Imports from Canada, 1964
		MFN	BP		($US000)
UNITED KINGDOM					
1.01	Live horses etc.	Free	Free	Bind Free	232
1.06 A & B	Other live animals	Free	Free	Bind Free	31
2.01 Ex.(A)(3)	Horsemeat, fresh or frozen	10%	Free	5%	253
Ex.(A)(3)	Pork, fresh or frozen	10%+QR	Free+QR	10%	—
(B)(1)(a)	Tongue & sweetbreads of beef and veal	Free	Free	Bind Free	668
(b)	Other edible offals of beef and veal	20%	Free	10%	1,289
2.06(A)(3)(a); (b); (4)(a)	Canned or cured pork	10%; Free +QR	Free+QR	10%; Free	4
5.03(A)	Horsehair, not processed	Free	Free	Bind Free	8
5.04(B)(2)	Sausage casings, other than bovine	Free	Free	Bind Free	2
5.08(B)	Animal bone or bone powder	10%	Free	5%	3
7.05(D)	Beans, dried, white	8%	Free	4%	2,699
8.04(B)	Dried grapes, raisins etc. cwt.	8/6	Free	4/–	15
8.05 Ex.(B)	Hazel nuts not in shell	10%	Free	Free	11
8.07 Ex.(C)	Fresh plums July 1–October 31 cwt.	16/9d	Free	16/8.4d	39
8.09(B)	Fresh fruit, other	10%	Free	5%	1
08.12(A)	Dried apples, pears, peaches etc.	Free	Free	Bind Free	6
09.01(A)(1)	Coffee, roasted or ground cwt.	12/6d	9/4d	6/3.6d	28
10.05(B)	Sweet corn on the cob (dried)	10%	Free	5%	5
10.06(A)	Rice, whole, cleaned cwt.	6/–	Free	3/–	1
12.01 Ex.(B)	Soybeans	5%	Free	Free	5,650
12.03(A)	Seeds of coniferous species	10%	Free	5%	25
13.02(C)	Natural gums and resins	10%	Free	5%	16
14.05(B)	Seaweed, not processed	Free	Free	Bind Free	39
(D)	Other vegetable products n.o.p.	10%	Free	5%	3
15.04(A)	Whale oil	Free	Free	Bind Free	212
16.01	Sausages etc.	20%+QR	Free	15%	20
16.02(A)(2)	Meat pastes, not canned	20%+QR	Free+QR	15%	1
(3)	Meat pastes, canned	20%+QR	Free+QR	15%	21
(B)(1)(c)	Beef and veal, canned	20%	Free	15%	112
16.03(A)	Meat extracts, beef and veal	20%	Free	10%	3
16.04(C)	Canned salmon	5%	Free	2½%	14,185
18.04	Cocoa butter cwt.	2/4d	Free	Free	252
20.02(B)	Tomato juice	10%	Free	5%	536
(C)(1)(b)(ii)	Canned tomatoes	10%	Free	5%	5
0.03(B)	Frozen fruit, with sugar, other than strawberries	15–5/8%	Free	15%	19
0.06 Ex.(A)(2)	Canned pears and apricots	12–5/8%	Free	12%	65
Ex.(A)(2)	Canned peaches	12–5/8%	Free	6%	25
(A)(3)(a)(ii)	Cherries prepared or preserved, not stoned	15–5/8%	Free	15%	92
(b)	Cherries prepared or preserved, stoned	10–5/8%	Free	10%	216
(A)(10)	Unmixed fruit prep & pres., other	15–5/8%	Free	15%	66
(A)(9)	Nuts, whether or not mixed	15–5/8%	Free	7½%	6
(B)(2)	Nuts, whether or not mixed	15–5/8%	Free	7½%	2
(C)(5)	Nuts, whether or not mixed	15%	Free	7½%	91
0.07 Ex.(B)	Tomato juice	10%	Free	5%	611
1.02(A)	Coffee extract cwt.	£2/16s	£2/2s	£2	667
1.07 Ex.(C)(5)	Corn, including corn on the cob, canned or frozen	10%	Free	5%	998
2.09(A)(1)	Liqueurs etc. aged 3 yrs. or over—per liquid gal.	3/6d	Free	1/9d	6
Ex.(B)(1)	Spirits other than rum, 3 yrs. or over—per proof gal.	2/6d	Free	1/3d	226
Ex.(B)(2)	Spirits other than rum, less than 3 yrs.—per proof gal.	2/6d	Free	1/3d	15
3.04(A)	Soybean cake and meal	15%	Free	10%	21,109
23.07(A)(1)	Natural vitamin feed supplements	10%	Free	5%	229
(2)	Other				
	Based on value of vitamin content	33–1/3	Free	12½%	3
	or	10% w.i.g.		or 5% w.i.g.	
24.01	Unmanufactured tobacco ..lb.	£3/17/4½	£3/15/10	25% cut in pref.	29,001
		(Cdn$11.61)	($11.38)	($11.55)	

	US$000
Elimination of preference	5,913
Preference cut by 50% or more not eliminated	21,251
Preference cut by less than 50%	51,459
Elimination of preference and cut in BP	695
Binding of MFN free entry	1,198

TABLE 3—AGRICULTURAL INPUTS ON WHICH THE CANADIAN TARIFF HAS BEEN REDUCED DURING THE KENNEDY ROUND[a]

Tariff Item Number	Brief Description	Present Rate	Negotiated Rate
		%	%
17900–1	Labels and tags of all kinds	22½	20
19200–1	Tarred paper and prepared roofings (including shingles and building paper)	20	15
19300–1	Paper bags or sacks of all kinds	20	15
19905–1	Paper milk bottle caps	25	17½
28200–1	Building brick and paving brick	15	10
28400–1	Drain pipes, sewer pipes etc.	22½	20
28410–1	Gypsum tile	20	15
28415–1	Earthenware tiles, n.o.p.	22½	20
28900–1	Plumbing fixtures	22½	20
29000–1	Portland and other hydraulic cement	4	Free
29300–1	Gypsum wallboard and sheathing	11¢/100 lb	6¢/100 lb
30400–1	Grindstones, mounted or not	22½	17½
34815–1	Copper pipe and tubing	10	5
34905–1	Copper alloy pipe and tubing	15	5
35200–1	Manufactures of brass and copper, n.o.p. (includes rivets, locks, washers, hinges, nozzles and other plumber's and builder's hardware)	20	17½
35305–1	Pipes and tubes of aluminum and alloys thereof	22½	12½
35400–1	Manufactures of aluminum, n.o.p. (includes aluminum siding, roofing, doors, windows etc., structural shapes, nails and other builders' hardware)	22½	17½
39700–1	Pipes or tubes of iron or steel and fittings	20	17½
40103–1	Galvanized wire	20	10
40112–1	Wire fencing, mesh, netting and screening	20%; 25%	12½
40705–1	Chains of iron or steel and parts	22½	17½
40954–1	Poultry processing equipment	5	Free
40960–1	Materials and parts for silo construction	20%; 17½%	10
42700–1	Machines, n.o.p., accessories and attachments (includes fans, portable conveyors, hydraulic power units and control systems for tractors, back hoes, front-end loaders, feed mixers, refrigeration equipment, milling machinery, power driven hand tools)	22½	15
42732–1	Machinery for dairying purposes (relates to commercial dairies)	15	7½
42820–1	Small air-cooled internal combustion engines and parts	20	15
43000–1	Nuts and bolts, n.o.p.	18½	17½
43120–1	Tools of various kinds	22½	20
43140–1	Files and rasps	22½	17½
43205–1	Dairy hollow-ware of iron or steel, coated with tin including milk cans	20	17½
43215–1	Tinplate containers for canning food products	20	17½
43915–1	Farm wagons, farm sleds etc.	15	12½
44043–1 to 44052–1	Aircraft and aircraft engines and parts, all types and sizes	15	7½
44300–1	Apparatus for cooking or heating buildings (includes food processing equipment)	22½	20
44516–1	Electric motors and parts	22½	15
44524–1	Electric apparatus and parts (includes water heater, electric fence controls)	22½	17½
44603–1	Manufactures of iron and steel, n.o.p. (includes poultry waterers and feeders, iron or steel doors, wire gates, milk parlour stalls, haying equipment)	22½	17½
44700–1	Water pumps, hand or power	22½	17½
51700–1	Wire screens, doors and windows	25	17½
54325–1	Bags or sacks of jute, hemp, linen or sisal	15	12½
58800–1	Coal (used by food processing plants etc.)	6½	Free
66330–1	Iodized mineral salts for feeding animals	10	5
66340–1	Oyster shell for poultry feeds	10	5
67000–1	Grinding wheels, stones, manufactures of emery	20	17½
501–2	Dairy cows	1½¢/lb	Free
6900–1 to 6928–1	Feeds for animals and poultry and ingredients including chemicals	20	5
7105–1 to 7615–1	Grass and forage seeds	2–10%	Free
8101–1 to 8235–1	Fruit trees and other florist and nursery stock used for propagation	5–15%	Free

[a] This is not an exhaustive list. It should be noted that the bulk of agricultural machinery and equipment now enters duty-free into Canada.

TABLE 4—SELECTED CANADIAN AGRICULTURAL TARIFF CONCESSIONS, MOST-FAVORED-NATION TARIFF

Tariff Item Number	Description of Products	Base Rate of Duty	Concession Rate of Duty
400–1	Horses, n.o.p. ..... each	$6.25	Free
503–1	Silver or black foxes	20%	Free
504–1	Animals, living, n.o.p.	5%	Free
600–1	Live hogs ..... per pound	1¢	½¢
	Meats, fresh, n.o.p.:		
704–1	Pork ..... per pound	1¼¢	½¢
705–1	N.o.p. ..... per pound	2½¢	1¼¢
705–2	Edible meat offal of all animals ..... per pound	1¢ (5% minimum) 6¢ 1¼¢ 2½¢	½¢
800–1	Canned beef	30%	20%
815–1	Pâtés de foie gras, foies gras, preserved, in tins or otherwise; lark pâtés	7½%	Free
820–1	Animal liver paste	7½%	Free
835–1	Extracts of meat and fluid beef, not medicated	25%	20%
	Meats, prepared or reserved, other than canned:		
1002–1	N.o.p. ..... per pound	2¢	1¢
1205–1	Sausage skins or casings, cleaned	15%	10%
1300–1	Lard and animal stearine of all kinds, n.o.p. ..... per pound	1¾¢	1¢
1305–1	Lard compound and similar substances, n.o.p. ..... per pound	1¾¢	1¢
1400–1	Tallow	17½%	10%
1605–1	Eggs, whole, egg yolk or egg albumen, frozen or otherwise prepared, n.o.p., whether or not sugar or other material be added ..... per pound	10¢	7¢
1610–1	Eggs, egg yolk or egg albumen, dried, evaporated, desiccated, or powdered, whether or not sugar or other material be added	25%	20%
3920–1	Rice meal, rice feed, rice polish, rice bran, rice shorts ..... per pound	1¢	¾¢
4305–1	Powdered milk, the weight of the package to be included in the weight for duty ..... per pound	4¢	3½¢
4500–1	Milk foods, n.o.p.	17½%	15%
4505–1	Prepared cereal foods, in packages not exceeding twenty-five pounds weight each	20%	17½%
4600–1	Prepared cereal foods, n.o.p.	15%	12½%
4710–1	Lima and Madagascar beans, dried ..... per pound	½¢	Free
4800–1	Peas and lentils, whole or split ..... per pound	¾¢ 7½% 20%	¾¢
4900–1	Buckwheat ..... per bushel	12½¢	Free
5000–1	Buckwheat meal or flour ..... per one hundred pounds	45¢	Free
5300–1	Cornmeal ..... per barrel	50¢	40¢
5505–1	Grain sorghum ..... per bushel	7½%	8¢
5900–1	Rye meal or flour ..... per barrel	45¢ 20%	25¢
6505–1	Special dietary breads and biscuits	7½%	5%
6700–1	Macaroni and vermicelli, containing no egg or other added ingredients ..... per one hundred pounds	$1.25	62½¢
	When in packages weighing two pounds, each, or less.		
6900–1	Straw ..... per ton	50¢	Free
6910–1	Hay ..... per ton	60¢	Free
8315–1	Sweet potatoes, n.o.p. ..... per pound	1½¢	Free
8505–2	Mushrooms, dried	12½%	10%
	Vegetables, fresh, in their natural state, the weight of the packages to be included in the weight for duty:		
8705–1	Brussels sprouts ..... per pound	3¢ or 10% or	3¢ 10% Free

The Free rate shall apply during the months of January, February, March, April, May and June.

During the remaining months in any 12 month period ending 31st March, the specific duty shall not be maintained in force in excess of 16 weeks, and the 10 per cent duty shall apply whenever the specific duty is not in effect.

TABLE 4—SELECTED CANADIAN AGRICULTURAL TARIFF CONCESSIONS, MOST-FAVORED-NATION TARIFF (Continued)

Tariff Item Number	Description of Products	Base Rate of Duty	Concession Rate of Duty
8707–1	Carrots.....per pound	1¢	½¢
		or Free	Free
	In any 12 month period ending 31st March, the specific duty shall not be maintained in force in excess of 40 weeks which may be divided into two separate periods, and the Free rate shall apply whenever the specific duty is not in effect.		
8708–1	Cauliflower.....per pound	¾¢	¾¢
		or 10%	10%
		or Free	Free
	The Free rate shall apply during the months of January, February, March, April and May.		
	During the remaining months in any 12 month period ending 31st March, the specific duty shall not be maintained in force in excess of 20 weeks which may be divided into two separate periods, and the 10 per cent duty shall apply whenever the specific duty is not in effect.		
8710–1	Corn on the cob.....per pound	1½¢	1½¢
		or 10%	Free
	In any 12 month period ending 31st March, the specific duty shall not be maintained in force in excess of 12 weeks, and the Free rate shall apply whenever the specific duty is not in effect.		
8713–1	Eggplant.....	10%	10%
		or	Free
	In any 12 month period ending 31st March, the 10 per cent duty shall not be maintained in force in excess of 8 weeks, and the Free rate shall apply whenever the 10 per cent duty is not in effect.		
8717–2	Green onions.....per pound	1½¢	1½¢
		or 10%	5%
	In any 12 month period ending 31st March, the specific duty shall not be maintained in force in excess of 44 weeks which may be divided into two separate periods, and the 5 per cent duty shall apply whenever the specific duty is not in effect.		
8718–1	Parsley.....	10%	10%
		or	Free
	In any 12 month period ending 31st March, the 10 per cent duty shall not be maintained in force in excess of 16 weeks, and the Free rate shall apply whenever the 10 per cent duty is not in effect.		
8719–1	Parsnips.....per pound	1¢	Free
		or 10%	
8720–1	Peas, green.....per pound	2¢	2¢
		or 10%	10%
		or	Free
	The Free rate shall apply during the months of October, November, December, January, February, March and April.		
	During the remaining months in any 12 month period ending 31st March, the specific duty shall not be maintained in force in excess of 12 weeks, and the 10 per cent duty shall apply whenever the specific duty is not in effect.		
8725–1	Watercress.....	10%	Free
8726–1	Whitloof or endive.....	10%	Free
8727–1	N.o.p.....	10%	Free
8727–2	Radishes.....	10%	10%
		or	Free
	In any 12 month period ending 31st March, the 10 per cent duty shall not be maintained in force in excess of 26 weeks, and the Free rate shall apply whenever the 10 per cent duty is not in effect.		
8727–3	Turnips.....	10%	Free
8727–4	Broccoli.....	10%	10%
		or	Free
	In any 12 month period ending 31st March, the 10 per cent duty shall not be maintained in force in excess of 16 weeks, and the Free rate shall apply whenever the 10 per cent duty is not in effect.		
	Vegetables, frozen:		
9003–2	Sweet potatoes.....	17½%	Free

TABLE 4—SELECTED CANADIAN AGRICULTURAL TARIFF CONCESSIONS, MOST-FAVORED-NATION TARIFF (Continued)

Tariff Item Number	Description of Products	Base Rate of Duty	Concession Rate of Duty
9010–1	Vegetables, dried, desiccated, or dehydrated, including vegetable flour, n.o.p.	20%	17½%
9015–1	Vegetables, pickled or preserved in salt, brine, oil or in any other manner, n.o.p.	20%	17½%
9020–2	Vegetable juices, liquid mustards, soy and vegetable sauces of all kinds, except tomato juice	20%	17½%
9025–1	Vegetable pastes and hash and all similar products composed of vegetables and meat or fish, or both, n.o.p.	20%	17½%
9030–1	Potatoes, pre-cooked, without admixture beyond the addition of preservatives, in powder, flake or granular form	17½%	15%
9032–1	Potatoes, pre-cooked, with admixture beyond the addition of preservatives	20%	17½%
9100–1	Soups, soup rolls, tablets, cubes or other soup preparations, n.o.p.	20%	17½%
	Fruits, fresh, in their natural state, the weight of the packages to be included in the weight for duty:		
9201–1	Apricots, per pound	1½¢	1½¢
	or	10%	Free
	In any 12 month period ending 31st March, the specific duty shall not be maintained in force in excess of 10 weeks, and the Free rate shall apply whenever the specific duty is not in effect.		
9202–1	Cherries, sour, per pound	3¢	3¢
	or	10%	Free
	In any 12 month period ending 31st March, the specific duty shall not be maintained in force in excess of 10 weeks, and the Free rate shall apply whenever the specific duty is not in effect.		
9204–1	Cranberries, per pound	2¢	5%
	or	10%	
9205–1	Peaches, per pound	1½¢	1½¢
	or	10%	10%
	or		Free
	The Free rate shall apply during the months of November, December, January, February, March and April. During the remaining months in any 12 month period ending 31st March, the specific duty shall not be maintained in force in excess of 14 weeks, and the 10 per cent duty shall apply whenever the specific duty is not in effect.		
9207–1	Plums, per pound	1¢	
	or	10%	10%
	or	Free	Free
	In any 12 month period ending 31st March, the 10 per cent duty shall not be maintained in force in excess of 12 weeks, and the Free rate shall apply whenever the 10 per cent duty is not in effect.		
9208–1	Prune plums, per pound	1½¢	1½¢
	or	10%	Free
	In any 12 month period ending 31st March, the specific duty shall not be maintained in force in excess of 12 weeks, and the Free rate shall apply whenever the specific duty is not in effect.		
9212–1	Berries, edible, n.o.p.	10%	Free
9300–1	Apples, fresh, in their natural state, the weight of the packages to be included in the weight for duty, per pound	¼¢	Free
	Grapes, fresh, in their natural state, the weight of the packages to be included in the weight for duty:		
9402–1	Vitis Labrusca species, per pound	1¢	1¢
	or	10%	Free
	When the grapes specified in item 9402–1 are imported under the Most-Favoured-Nation or General Tariff the specific duty of one cent per pound shall not be maintained in force in any twelve months ending 31st March for a period in excess of 15 weeks, and whenever the specific duty of one cent per pound is not levied the Free rate shall apply.		
9915–1	Raisins, per pound	3¢	1½¢
	When in packages weighing two pounds each, or less, the weight of such packages to be included in the weight for duty.		
9945–1	Apricots, nectarines, pears and peaches, dried, desiccated, evaporated or dehydrated	15%	Free

TABLE 4—SELECTED CANADIAN AGRICULTURAL TARIFF CONCESSIONS, MOST-FAVORED-NATION TARIFF (Continued)

Tariff Item Number	Description of Products	Base Rate of Duty	Concession Rate of Duty
9950–1	Dried currants.....per pound	4¢	2¢
	When in packages weighing two pounds each, or less, the weight of such packages to be included in the weight for duty.		
10200–1	Limes.....	15%	Free
10500–1	Fruit pulp, with sugar or not, n.o.p., and fruits, crushed.....per pound	2¢	1½¢
10520–1	Cherries, sulphured or in brine, not bottled.....	15%	12½%
10525–1	Fruits and nuts, pickled or preserved in salt, brine, oil, or any other manner, n.o.p.....	25%	17½%
10535–1	Fruits and peels, crystallized, glacé, candied or drained; cherries and other fruits of crème de menthe, maraschino or other flavor.....	25%	15%
10540–1	Oranges, grapefruit, or lemons, sliced or in the form of pulp, with or without the addition of preservatives.....	5%	Free
10605–1	Pineapples.....per pound	2¢	Free
	Fruits, frozen:		
10701–1	Blueberries.....per pound	1¾¢	Free
10900–1	Nuts of all kinds, n.o.p., shelled, or not.....per pound	1¢	Free
13800–1	Maple sugar and maple syrup.....	17½%	Free
14000–2	Molasses, the product of the sugar beet.....per gallon	6½¢	1¢
	Tobacco, unmanufactured, for excise purposes under conditions of the Excise Act, subject to such regulations as may be prescribed by the Minister:		
	Of the type commonly known as Turkish:		
14201–1	Unstemmed.....per pound	22¢	11¢
14202–1	Stemmed.....per pound	40¢	20¢
	N.o.p.:		
14205–1	Unstemmed, when imported by cigar manufacturers for use as wrappers in the manufacture of cigars in their own factories.....per pound	10¢	5¢
14210–1	Converted tobacco leaf for use in the manufacture of cigar binders and cigar wrappers.....per pound	$1.05 } 83⅓¢ }	75¢
14400–1	Cut tobacco.....per pound	45¢	40¢
	Fruit juices and fruit syrups, n.o.p., viz.:		
15201–1	Lime juice.....	10%	Free
15202–1	Orange juice.....	7½%	5%
15203–1	Lemon juice.....	10%	Free
15205–1	Pineapple juice.....	7½%	5%
15206–1	Grapefruit juice.....	7½%	5%
15207–1	Blended orange and grapefruit juice.....	10%	5%
15209–1	Fruit syrups, n.o.p.....	10%	5%
15215–1	Dehydrated citrus fruit juices with or without stabilizers or sugar.....	7½%	5%
15300–1	Lime juice, raw and concentrated, not refined.....per gallon	15¢	Free

POLICY AND PROGRAM DEVELOPMENTS

Canadian Wheat Board Payments—The Canadian Wheat Board's initial payments to producers for the basic grades of wheat, oats and barley to be delivered during the 1967-68 crop year will be: Wheat, No. 1 Manitoba Northern, basis in store Fort William/Port Arthur or Vancouver, $1.70 a bushel; oats, No. 2 C.W. Oats, basis in store Fort William/Port Arthur, $0.65 a bushel; barley, No. 3 C.W. Six Row Barley, basis in store Fort William/Port Arthur, $1.06 a bushel. These payments, which are effective August 1, 1967, represent an increase of 20¢ a bushel for wheat, 5¢ a bushel for oats and 10¢ a bushel for barley. (May 23, 1967)

Ontario Greenhouse Vegetable Producers' Marketing Order—The Ontario Greenhouse Vegetable Producers' Marketing Board and the Farm Products Marketing Board of Ontario are authorized to regulate the marketing of greenhouse vegetables in interprovincial and export trade and for such purposes may, with respect to persons and property situated in Ontario, exercise all or any powers similar to those already possessed for the marketing of greenhouse vegetables within the Province. (May 25, 1967)

Ontario Fresh Grape Growers' Marketing Order—An amendment to this order includes authority for the appointment of agents by the Ontario Fresh Grape Growers' Marketing Board, and for the duties, terms and conditions of employment, and remuneration of such agents in interprovincial and export trade, as applies for the marketing of fresh grapes within Ontario. (May 25, 1967)

Ontario Fresh Fruit Growers' Marketing Order—An amendment to this order includes authority for the appointment of agents by the Ontario Fresh Fruit Growers' Marketing Board, and for the duties, terms and conditions of employment, and remuneration of such agents in interprovincial and export trade, as applies for the marketing of fresh fruit within Ontario. (May 25, 1967)

Ontario Asparagus Growers' Marketing-for-Processing Order—The Ontario Asparagus Growers' Marketing Board and the Farm Products Marketing Board of Ontario are authorized to regulate the marketing of asparagus in interprovincial and export trade and for such purposes may, with respect to persons and property situated in Ontario, exercise all or any powers like those already provided for the marketing of asparagus within the Province. (May 25, 1967)

Ontario Vegetable Growers' Marketing-for-Processing Order—The Ontario Vegetable Growers' Marketing Board and the Farm Products Marketing Board of Ontario are authorized to regulate the marketing of vegetables in interprovincial and export trade and for such purposes may, with respect to persons and property situated in Ontario, exercise all or any powers similar to those already possessed for the marketing of vegetables within the Province.

In the Order, vegetables are defined as green and wax beans, lima beans, red beets, cabbage, carrots, sweet corn, long green cucumbers, green peas, pumpkin and squash or tomatoes produced in Ontario for processing. (May 25, 1967)

Ontario Hog Producers' Marketing Order—The Ontario Hog Producers' Marketing Board and the Farm Products Marketing Board of Ontario are authorized to regulate the marketing of hogs in interprovincial and export trade and for such purposes may, with respect to persons and property situated in Ontario, exercise all or any powers similar to those they already provided for the marketing of hogs within the Province. (May 25, 1967)

Potato Price Stabilization Order, 1966—An amendment to this Order redefines price stabilization payments made by the Agricultural Stabilization Board when potatoes are used for approved non-food uses other than starch manufacture. Whereas previously the Board was prepared to pay a flat 75¢ a hundredweight for such potatoes on deliveries of up to a maximum of 1,000 barrels per producer, the Board will now pay 75¢ a hundredweight where potatoes are used for approved livestock feed purposes and 50¢ a hundredweight in the case of approved provincial disposal programs, on deliveries of up to 5,000 barrels per producer. A payment limit of 1,000 barrels per producer still applies on potatoes used for the manufacture of starch. (June 1, 1967)

Manufacturing Milk and Cream Price Stabilization Order, 1967—This order designates manufacturing milk and cream delivered by producers to plants as an agricultural commodity under the Agricultural Stabilization Act and authorizes a prescribed price for such milk at approximately 172 per cent of the base price in the period April 1, 1967 to March 31, 1968. The Agricultural Stabilization Board also is given authority to make payments to the Canadian Dairy Commission to reimburse that body for its outlays to manufacing milk and cream producers

under the quota system, to the extent of $120.4 million; to meet the Commission's costs incurred in storing, handling and shipping dairy products; for interest on loans associated therewith, and for amounts paid by the Commission, up to $250,000, for providing information to producers concerning the program. Where the Commission can demonstrate to the Board's satisfaction that sufficient funds are not available or funds are required to rectify basic quota inequities and to increase producer efficiency, the Board may also pay the Commission an amount not exceeding $12.5 million in respect of milk delivered by milk and cream producers under quotas established by the Commission in excess of those under the basic quota system. (June 1, 1967)

Farm Credit Corporation—Two new members have been appointed to the Farm Credit Corporation. Mr. A. Saumier, Assistant Deputy Minister, Department of Forestry and Rural Development, replaces retiring member Mr. A. T. Davidson, Assistant Deputy Minister (Water), Department of Energy, Mines and Resources. The other new appointee is Mr. W. E. Jarvis, Assistant Deputy Minister, Canada Department of Agriculture, who replaces retiring member Mr. S. J. Chagnon, Associate Deputy Minister, Canada Department of Agriculture. (June 7, 1967)

Export Assistance Rebate—Canadian dairy farmers will receive a rebate of 2.7¢ per hundredweight from the 10¢ per hundredweight export assistance holdback retained by the Agricultural Stabilization Board under the 1966-67 federal dairy program. The cost of export assistance in 1966-67 was 7.3¢ per 100 pounds of manufacturing milk on which the federal subsidy of 85¢ per 100 pounds was paid. The total amount of the rebate to be distributed to dairy farmers is $2,874,000. (June 13, 1967)

Farm Credit Repayment Terms—More flexible repayment terms for Farm Credit Corporation mortgages permit the postponement of payments of principal under special circumstances for periods of up to five years on a 30-year loan; where funds are borrowed for substantial land clearing programs; for the planting and development of orchards, and for the establishment of livestock enterprises. In such instances, the Corporation may charge interest only during the early years, thus assisting borrowers over the initial period of development.

In determining whether repayment of principal should be deferred, the Corporation will take into account the size and purpose of the loan, the nature and size of the farming enterprise, and the length of time required to develop its earning potential. (June 16, 1967)

Egg Stabilization Program—To strengthen the Canadian egg market, which has recently experienced increased egg supplies and a sharp drop in prices to producers, the Agricultural Products Board has been authorized to stabilize egg prices through a purchase program. Eggs will be bought by the Board and processed into egg products such as egg melange and egg powder. It is expected that some of the egg products will make up part of Canada's contribution to the World Food Program. (July 7, 1967)

Storage Construction Grants—The Federal Government has announced a program of grants toward the construction of frost-free potato warehouses, controlled atmosphere storage for apples, and jacketed storage for vegetables. The grants, which will be made directly to producer groups, will be up to one-third of the approved expenditures to a maximum of $50,000 for potato warehouses and $150,000 for controlled atmosphere and jacketed storage facilities. The annual cost of these grants to the Federal Government is estimated at $500,000.

Each producer group will be required to pay a minimum of 25 per cent of the cost of construction. Federal grants will be made, following Parliament's approval of the necessary funds, on the basis of regulations and approval of plans for proposed facilities prior to construction. (July 12, 1967)

PUBLICATIONS

ECONOMICS BRANCH PUBLICATIONS

Optimum Plans for Small Farms in Northeast Saskatchewan, Sonntag, B. H., Economics Branch, Canada Department of Agriculture, Regina. May, 1967. Publication No. 67/7, pp. 82.

This is the preliminary report of a study examining the potential for increasing incomes through more intensive production on small farms in the R.M. of Barrier Valley No. 397 in Saskatchewan.

UNITED NATIONS PUBLICATIONS

Available in Canada from the Queen's Printer, Ottawa

Report on the 1960 World Census of Agriculture, Food and Agriculture Organization of the United Nations, Rome. 1966. Volume 1—Part A. pp. vii + 234. Price, U.S. $3.00.

This publication presents, in unified form, census results from 25 countries which participated in the 1960 world census of agriculture. Two further reports on the same lines are contemplated as final data from other countries become available and are processed by FAO.

Proceedings of the FAO Symposium on Integrated Pest Control, Food and Agriculture Organization of the United Nations, Rome. 1966. Part I, pp. 91; Part II, pp. 186; Part III, pp. 129.

The proceedings, including papers presented, of an international symposium organized by FAO and held in Rome in October, 1965.

Program of Work and Budget for 1968-69, Food and Agriculture Organization of the United Nations, Rome. March, 1967. Publication c67/3. pp. xlviii + 445.

This report of the Director-General includes data with respect to 1968-69 estimates, the estimated use in 1968-69 of total funds by FAO, the distribution of time spent on various programs by FAO departments and divisions in 1966, and a detailed program of work and budget for 1968-69.

OECD PUBLICATIONS

Available in Canada from the Queen's Printer, Ottawa

Agricultural Policies in 1966, Europe, North America and Japan. Organization for Economic Cooperation and Development, Paris. 1967. pp. 664. Price, U.S. $12.00.

This is the first general review of agricultural policies undertaken by OECD since publication of "Trends in Agricultural Policies since 1955" in July 1961. The latest report discusses generally and for member countries the existing situation and problems with respect to productivity, incomes, farm structure and organization, production, consumption and trade; policies regarding intervention in prices, markets, foreign trade, productivity structures and manpower. In addition, there is an examination of the common policy of the EEC and of bilateral agreements under EFTA. The publication also includes statistical tables, and resolutions and press communiqués adopted in the meetings of Ministers of Agriculture.

OTHER PUBLICATIONS

Not Available From Economics Branch

1965 Alberta Cattle Feeding Enterprise Analysis, Hackett, B. A., Economics Division, Alberta Department of Agriculture, Edmonton. 1967. Publication No. 816-420-3. pp. 45.

A study of the 1965 returns and costs of 75 cattle feeding enterprises, located in the brown and dark brown, thin black, and black soil zones of Alberta.

Partners in Progress, Department of Forestry and Rural Development, Ottawa, 1966, pp. 100.

A general survey, by province, of achievements through ARDA legislation under the first General Agreement which terminated on March 31, 1965.

Socio-Economic Problems and Adjustment Needs of the Farm Family in Eastern Ontario, Noble, Henry F., Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture and Food, Toronto, January, 1967, pp. 36.

A study of the economic conditions, expectations and sociological structure of farm families in Eastern Ontario, compiled from material supplied by 182 full-time and 117 part-time farm operators.

The Canada Land Inventory—Report No. 3, Department of Forestry and Rural Development, Ottawa, 1966. Catalogue No. Fo63-3/1966, pp. vi + 24.

This ARDA report of the climates of Canada for agriculture comprises three sections: temperatures and the growing season; description of the climate, and classification of the country into climatic regions relating to field crops.

The Impact of Urbanization on Rural Areas, ARDA Report and Digest, Department of Forestry and Rural Development, Ottawa, 1966, pp. 12.

The text of a paper on the impact of urbanization on rural areas by Jean-B. Lanctot, Chief, Com-

munity Development Services, Rural Development Branch, Department of Forestry and Rural Development, delivered at the International Conference on Social Work, Washington, in September, 1966.

Occasional Papers on Credit, Livestock, Food Supply, Policy, Drummond, W. M. and W. J. Anderson, T. C. Kerr and G. A. MacEachern, Agricultural Economics Research Council of Canada. March, 1967. Publication No. 9, pp. ix + 52 + 12. Price, $2.00.

These are six papers dealing with farm credit, the location of livestock production, world food supply, and agricultural policy in Canada and the United States.

Assets, Liabilities and Net Worth of Canadian Farm Operators, 1935-64, Lerohl, M. L., Agricultural Economics Research Council of Canada. March, 1967. Publication No. 10. pp. vii + 52. Price $2.00.

This paper reports the results of a project designed to draw up annual balance sheets for Canadian farm operators, by province, for the period 1935-64; points to changes which have occurred in the capital and ownership structure of assets controlled by farm operators, and indicates the way in which such changes relate to the state of the farming industry.

Farm and Farm Family Income, Farm Expenditures and Resources in Canadian Agriculture, 1958 Farm Survey Report No. 2, Fitzpatrick, John M., Agriculture Division, Dominion Bureau of Statistics, Ottawa. May, 1967. Catalogue No. 21-509. pp. 73. Price, $1.00.

A joint study by the Agriculture Division, Dominion Bureau of Statistics and the Canada Department of Agriculture of farm and farm family income, farm expenditures and resources for non-commercial, semi-commercial and commercial farm holdings in Canada. The report is one of a series of publications arising from the 1958 Survey of Farm Expenditures and Income.

The Riverhurst Region of Saskatchewan, Burges, A. W., Geographical Branch, Department of Energy, Mines and Resources, and J. W. Channon, Economics Branch, Canada Department of Agriculture, Ottawa. Prairie Regional Studies in Economic Geography, No. 1. 1967. pp. 112.

This report is concerned with the economy and characteristics of the communities served by the Canadian National Railways Riverhurst Subdivision and part of the Central Butte Subdivision. It is the first of a series of studies designed to make available to the Canadian Transport Commission data for use in decision making in the field of rail rationalization in the prairie provinces and its economic and social implications.

Handbook of Agricultural Statistics, Part II, Farm Income—1926-65, Agriculture Division, Dominion Bureau of Statistics, Ottawa. June, 1967. Catalogue No. 21-511. pp. 94. Price, $1.00.

A historical series of cash receipts from farming operations, income in kind, value of inventory changes, gross farm income, farm operating expenses and depreciation charges, and supplementary payments, presented on both a provincial and Canada total basis.

STATISTICAL APPENDIX

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1966-67

Commodity, grade and market	1966			1967			
	Average	May	June	March	April	May	June
				dollars per cwt.			
CATTLE (weighted average prices at public stockyards)							
Good slaughter steers							
Toronto	25.85	25.50	25.11	26.70	26.00	26.48	27.40
Winnipeg	25.15	25.36	24.46	25.56	25.33	25.40	26.45
Calgary	24.50	24.75	24.13	24.50	24.15	24.64	25.71
Good feeder steers							
Toronto	27.70	28.00	28.00	28.00	28.02	28.19	29.49
Winnipeg	25.55	26.25	26.22	25.93	26.15	26.63	27.81
Calgary	24.90	25.65	25.09	25.82	25.89	26.22	26.35
Good and choice veal calves							
Toronto	34.95	35.17	35.03	38.73	37.95	38.87	38.08
Winnipeg	34.35	33.49	36.75	39.44	38.61	39.69	39.42
Edmonton	28.20	32.08	32.32	36.25	36.08	36.76	35.91
HOGS (weighted average prices at public stockyards, Grade A dressed)							
Toronto	35.90	36.83	38.29	31.69	29.93	32.52	32.38
Winnipeg	34.45	35.54	36.35	28.90	27.60	30.33	29.97
Calgary	33.50	33.19	34.66	27.00	26.32	28.88	27.93
LAMBS (weighted average prices at public stockyards, Good lambs)							
Toronto	26.50	29.77	28.46	25.45	29.13	31.47	36.61
Winnipeg	21.85	28.21	28.41	21.50	21.50	23.05	29.38
Calgary	22.00	26.80	25.69	19.41	19.36	22.80	24.62
FLUID MILK (f.o.b. factory)							
Halifax	6.00	6.10	6.10	6.10	6.10	6.10	6.10
Montreal	5.41	5.35	5.35	6.00	6.00	6.00	6.00
Toronto	5.52	5.29	5.29	5.75	5.75	6.10	6.10
Winnipeg	5.34	5.20	5.20	5.48	—	5.97	5.97
Vancouver	6.59	6.54	6.56	6.74	6.77	6.77	6.92
MANUFACTURING MILK (average farm value)[a]							
Nova Scotia	2.94	2.68	2.91	3.04	3.04	—	—
New Brunswick	3.19	3.12	3.22	3.28	3.28	—	—
Quebec[b]	3.08	2.98	2.99	3.14	3.14	—	—
Ontario[c]	3.14	3.13	3.04	3.21	3.38	—	—
British Columbia	3.24	3.24	3.26	3.28	3.49	—	—
				cents per lb.			
BUTTERFAT (for butter, average farm value)[a]							
Prince Edward Island	65.4	64.0	63.0	67.0	68.5	—	—
Quebec[b]	82.9	82.7	81.3	83.8	83.8	—	—
Ontario[c]	75.7	74.4	74.6	77.0	81.4	—	—
Saskatchewan	61.4	59.1	58.6	63.2	64.1	—	—
British Columbia	78.9	80.5	80.5	82.2	87.8	—	—
				cents per doz.			
EGGS (average paying prices at registered grading stations, Grade A Large)							
Halifax	44.6	34.8	33.7	38.8	34.8	30.4	28.0
St. Anselme	45.5	42.4	35.6	36.3	38.4	32.2	29.9
London	45.4	40.6	36.5	34.8	33.4	29.6	28.0
Winnipeg	38.1	32.1	31.6	27.9	26.0	24.6	22.0
Vancouver	39.9	35.6	33.0	30.0	30.5	29.2	26.5
				cents per lb. live			
BROILERS (average prices paid to growers No. 1 grade chicken under 5 lbs.)							
Toronto	20.6	20.5	20.5	20.0	20.0	19.6	19.0
Edmonton	21.8	22.5	22.5	21.5	21.5	21.5	20.7
TURKEYS (average prices paid to growers, No. 1 grade, 12-20 lbs.)							
London	25.4	24.5	24.2	23.0	22.5	22.9	23.0
Edmonton	25.8	—	—	25.2	25.0	—	—

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1966-67 (Continued)

Commodity, grade and market	1966			1967			
	Crop Year Average	May	June	Mar.	April	May	June
				dollars per cwt.			
POTATOES (Can. No. 1 Table, average prices to growers)							
Prince Edward Island	2.85	3.67	2.03	1.04	0.83	1.07	1.09
New Brunswick	2.28	3.13	1.60	0.81	0.57	0.73	0.88
Southwestern Ontario	2.83	3.77	—	1.63	1.37	1.30	1.36
				cents & eights per bu.			
EASTERN GRAINS							
Oats (Ont. No. 2 White, f.o.b. shipping points)	78	78	78	85	85	85	85
Barley (Ont. good malting, f.o.b. shipping points)	145	145	145	145	145	145	145
Corn (Ont. No. 2 Yellow, f.o.b. Chatham, 15% moisture, in carlots)	144/6	143	147/6	153	154	154	154
Soybeans (Ont. No. 2, f.o.b. Chatham)	300/7	321/5	339/7	298/4	298/1	300/2	302
WESTERN GRAINS (basis in store Fort William/Port Arthur, less freight and elevator charges)							
Red Spring Wheat (No. 2 Nor.)							
Winnipeg	183/6	187/4	191	196/6	196/7	196/6	196/2
Regina and Edmonton	180/2	184	187/4	193/2	193/3	193/2	192/6
Durum Wheat (No. 1 C.W.A.D.)							
Winnipeg	187/6	190/7	187/3	215/1	210/7	210/6	210/2
Regina and Edmonton	184/2	195/3	191/7	211/5	207/3	207/2	206/6
Feed Wheat							
Winnipeg	160/4	164/4	168	178/6	178/7	178/6	178/2
Regina and Edmonton	157	161	164/4	175/2	175/3	175/2	174/6
Oats (No. 1 feed)							
Winnipeg	76/5	78	80/6	77/4	78/6	78/7	79/5
Regina	74/5	76	78/6	75/4	76/6	76/7	77/5
Edmonton	72/5	74	76/6	73/4	74/6	74/7	75/5
Barley (No. 1 feed)							
Winnipeg	117	115/4	115/5	111/4	112/7	112/6	114/4
Regina	114	112/5	112/6	108/5	110	109/7	111/5
Edmonton	111/2	109/6	109/7	105/6	107/1	107	108/6
Rye (No. 2 C.W.)							
Winnipeg	119/1	108/6	123/1	129	129/3	129/6	126/7
Regina	115/6	105/3	119/6	125/5	126	126/3	123/4
Edmonton	112/3	102/1	116/4	122/3	122/6	123/1	120/2
Flaxseed (No. 1 C.W.)							
Winnipeg	289/2	284/1	285/2	290/7	292/7	288/3	295/7
Regina	286	280/7	282	287/5	289/5	285/1	292/5
Edmonton	282/5	277/3	278/4	284/1	286/1	281/5	289/1
Rapeseed (No. 1 C.W. basis in store Vancouver)	266/1	270/1	284/2	294/1	280/5	273	271/2

[a]Since the average farm values for manufacturing milk and butterfat published by the Dominion Bureau of Statistics (D.B.S.) do not include the Federal subsidies as of April 1, 1966, it is necessary to add, during the 12-months' period ended March 31, 1967, the Federal payment of 85¢ per 100 pounds of milk testing 3.5% butterfat to obtain the full returns to producers. Ten cents were retained for export aid. The net payment of 75¢ per cwt. was made directly to farmers, at the equivalent rate of 21.43¢ per pound of butterfat.

Federal subsidies for the 12-months' period April 1, 1967 to March 31, 1968 amount to $1.21 per cwt. of milk testing 3.5% butterfat, of which 11¢ are retained for export aid. The net payment per cwt. is again made directly to producers at the equivalent rate of 31.42¢ per pound of butterfat.

[b]In the province of Quebec, and beginning April 1, 1966, full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote[a]), plus a payment made by the Quebec government. This payment is made on butterfat at the rate of 5¢ per pound from April 1 to September 30 and at the rate of 10¢ per pound from October 1 to March 31. Prior to April 1, 1966, this payment, which began in October, 1964, was made through factories and was part of the producer's farm value. It terminated on March 31, 1967.

[c]In the province of Ontario, and beginning October 1, 1966 until March 31, 1967 full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote[a]), plus a payment made by the Ontario government. The payments amount to 25¢ per hundredweight (7.14¢ per pound butterfat) of manufacturing milk and secondary and excess fluid milk delivered to plants, basis 3.5% butterfat. For all cream grading Special and/or No. 1, the payment is 10¢ per pound butterfat.

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CANADIAN FARM ECONOMICS

COMMODITY REVIEW

EGGS AND POULTRY MEAT

Eggs—Marketings of eggs at registered stations in Canada in 1967 will set a new record high, and will exceed by a wide margin the previous record set in 1964. Marketings to August 26 totaled 5.5 million cases (30 dozen per case), up by more than half a million cases or by 11 per cent from deliveries at registered stations in the same period last year.

In the first eight months of 1967, egg marketings averaged 163,000 cases weekly, and are forecast to equal or slightly exceed this rate during the remainder of this year. If so, egg marketings for 1967 will total about 8.5 million cases compared with marketings of 7.8 and 7.5 million cases in 1964 and 1966 respectively.

The rising trend of egg production in 1967 reflects the expansion that has occurred in layer numbers in Canada since November, 1966. Pullet layer numbers will reach a peak in November, 1967 and will begin to decline slowly thereafter, according to reports of egg type pullet chick replacements from registered hatcheries during the past year. However, by January, 1968, pullet layer numbers in Canada, estimated at 23.2 million, will be up by 2.2 million birds or by 10 per cent from year-earlier numbers. Thus, egg marketings in the first half of 1968 will likely continue to exceed year-earlier levels, but by a diminishing amount each week.

The supply of ready-to-lay replacement pullets will reach a seasonal and cyclical peak of slightly over 4 million birds per month during October and November. Replacement numbers in December, at 2.3 million, will drop about 4 per cent below year-ago levels, and by January, replacement numbers, at 1.3 million, will be 7 per cent under the same month last year. The downward trend appears to be accelerating according to reports of egg type hatchery activity this summer.

The rapid expansion of layer numbers during 1967 resulted in heavy egg marketings and low prices, especially during the period from May to July, when peak marketings occurred. Egg marketings at registered stations began to decline seasonally in late July and this trend is expected to continue slowly into October. Egg prices across Canada also firmed up in late July after having dropped rather steadily from an average of 46.1¢ per dozen for all grades at the producer level in November, 1966, to a low of 23.8¢ in June and July.

Prices are likely to remain firm during September and October at the August level of about 28¢ per dozen, but will likely come under pressure again by late fall, due mostly to seasonally increasing production at that time. Unless culling rates are stepped up sharply this fall and winter, heavy egg supplies and low prices are again in prospect from November to mid-1968.

Poultry meat—Marketings of poultry at registered plants in Canada during the first eight months of 1967, at 413 million pounds (eviscerated basis), were up 12 per cent from output during the same period last year. In contrast with 1966, when output of poultry meat increased by a similar percentage from the previous year and prices were firm at relatively high levels, this year poultry meat production has outrun demand. As a result, price levels have trended downward and storage stocks of poultry meat, especially of chicken and fowl, had built up to record high levels by August 1.

Larger supplies of red meats, especially of pork, have contributed to the marketing problems encountered by poultry meats in 1967. In the period from January to July, domestic disappearance of red meats in Canada was larger by 8 per cent from disappearance in the same period of 1966. Moderately larger forecasted pork production this fall and winter will continue to provide stiff competition for poultry meats.

Broiler Chicken—Marketings at registered stations in Canada from January to August 26 totaled 272 million pounds, up by 14 per cent from output in the same period of last year. Expansion occurred throughout Canada, but was especially rapid in Quebec and Ontario.

Broiler chick placements in Canada reached a record peak of over 3.5 million chicks weekly during May and tapered off to 3.2 million by the last week

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in June. These birds were grown for the peak demand period from July to Labour Day.

The downward trend in placements accelerated during the summer, and weekly placements by August 12 were 2.5 million, or 12 per cent under the same week a year ago. The reduction in broiler hatches this summer has been precipitated by the unusually high level of storage stocks that has built up in 1967, and by the weak prevailing prices for broiler chicken. At August 1, storage stocks of chicken in Canada reported at 20.1 million pounds were more than double year-earlier levels. Price levels for broiler chicken at the producer level in late August were 0.5 to 3¢ below a year ago. Markets were down proportionately more in Central Canada, where fresh ice pack broilers to retailers in Montreal at 31 to 33¢ a pound were 4¢ below a year earlier at August 29.

The downward trend of broiler chick placements this summer will be reflected in smaller broiler marketings this fall, and probably in a reduction of storage stocks as well. Thus, broiler price levels are likely to strengthen gradually this fall. Among the factors that will limit price advances in Central Canada, aside from larger expected hog marketings and heavy storage stocks of poultry meats, is a backlog of chicken on farms in Ontario that arose as a result of price differences between the Ontario Broiler Chicken Producers' Marketing Board and the processors in Ontario.

Turkeys—Canada's 1967 heavy turkey crop marketed in registered stations, estimated at 7.2 million birds, will be slightly lower than the 1966 crop of 7.3 million. Marketings of heavy toms are forecast at 3.6 million, equal to last year, while heavy hen marketings are also forecast at 3.6 million, down from output in 1966. However, the forecast for hens is subject to greater error because of the possibility of finishing broiler toms in the heavy hen weight range. If the price relationship between heavy hens and broilers widens towards December from the present spread of about 2¢ a pound live, then some further feeding of broiler toms is likely.

Broiler turkey marketings in Canada fell below year-ago levels in July, reflecting the 12 per cent cutback in broiler poult placements that occurred during the period from March to August. Thus, broiler turkey marketings during the period from September to December, forecast at 2.9 million, will remain below output in the same period last year.

J. D. F. Kidd

PROCESSED EGG PRODUCTS

With shell egg supplies in Canada up moderately from last year, the volume of eggs processed in Canada this year has increased sharply. Liquid egg production in registered plants in the period from January to August 25 totaled 23.3 million pounds compared with an output of 14 million pounds in the same period of 1966. Of the 1967 production of liquid eggs, about 16.9 million pounds were converted to various frozen products while 6.4 million pounds have been either dried or sold as fresh liquid.

As a result of the heavy volume of processing, storage stocks of frozen eggs at August 1 were reported by the Dominion Bureau of Statistics at 7.8 million pounds, up sharply from the levels at the beginning of the year and from a year ago of 2.7 and 4.7 million pounds respectively. Although storage stocks are not reported for dried egg solids, these are probably also larger than at this time last year.

The volume of Canadian liquid egg production in 1967 will likely exceed output in all previous years since 1959, when large quantities were processed for the Agricultural Stabilization Board, and subsequently exported as melange and dried eggs. Since 1959, egg processing operations in Canada have been strictly on a commercial basis.

The trends in the volume of Canadian foreign trade in egg products for the ten-year period 1957 to 1966 are shown in Tables 1 and 2. Until the latter part of 1965, when a shortage of shell eggs developed in Canada, frozen egg imports into Canada provided only a small portion of domestic market requirements, the bulk of which was satisfied by Canadian production of frozen eggs. Although Canadian shell egg marketings in 1967 were 11 per cent above the 1966 level, frozen and liquid egg imports into Canada in 1967 totaled about 4 million pounds in the January to August period. As was the case in 1966, the bulk of these 1967 imports originated in Great Britain and the United States, but shipments from Australia were also substantial this year.

Dried egg solid imports into Canada averaged about 250,000 pounds annually between 1961 and 1964, but jumped sharply in late 1965 and 1966, apparently reflecting the shortage of Canadian shell eggs for processing in that period. As has been the case with frozen egg imports, dried egg imports into Canada in the first five months of 1967 remained relatively large and totaled 471,000 pounds. Most of these dried egg imports originated in Great Britain, China, the United States and several countries of Western Europe.

Canadian commercial exports of egg products have been of minor importance in the past 10 years. In 1965 and 1966, egg product exports are reported to have been comprised mostly of dried albumen, part of which was imported as liquid from the United States for processing in Canada and for subsequent re-export.

The trend in the domestic disappearance of egg products in Canada for the 1957 to 1966 period is shown in Table 3. Since 1957, there has been a gradual rise in the usage of egg products. The reason for the sharp increase of disappearance in 1965 from 1964 levels was due to the inclusion in the 1965 production statistics of liquid eggs used for egg production and for sale as liquid eggs, whereas production from 1957 to 1964 relates to frozen egg products only.

The import tariff structure for egg products will be revised downward in stages to the new Kennedy Round rates beginning in January, 1968. The changes, which apply to the Most Favoured Nation schedule only, are from 10¢ to 7¢ a pound on frozen eggs and from 25 per cent to 20 per cent of dutiable value in the case of egg solids. The rates of duty under the British Preferential schedule on frozen and dried eggs remain at 5¢ a pound and 10 per cent ad valorem respectively.

J. D. F. Kidd

TABLE 1—IMPORTS OF EGG PRODUCTS INTO CANADA, BY CLASS OF PRODUCT, 1957 TO 1966

	Frozen Whole Yolk or Albumen[a]	Dried				Total
		Albumen	Whole and Yolk	Total	Liquid Equivalent	Imports
	thousand pounds					
1957	95	214	54	268	1,073	1,168
1958	85	245	71	316	1,262	1,347
1959	72	70	53	123	491	564
1960	69	94	113	207	827	896
1961	69	189	63	252	1,007	1,076
1962	27	172	92	264	1,056	1,084
1963	40	—	—	208	831	870
1964	11	—	—	257	1,028	1,039
1965	386	—	—	383	1,533	1,919
1966	6,830	—	—	634	2,535	9,366

[a]This category included frozen eggs only from 1957 to 1963, but was changed in 1964 to include liquid as well.
Source: Dominion Bureau of Statistics, *Trade of Canada*, Catalogue No. 65-203.

TABLE 2—EXPORTS OF EGG PRODUCTS FROM CANADA, BY CLASS OF PRODUCT, 1957 TO 1966

	Frozen Whole Yolk or Albumen	Dried		Total
		Whole Yolk or Albumen	Liquid Equivalent	Exports
	thousand pounds			
1957	38	66	266	304
1958	6,414	84	335	6,749
1959	10,012	1,607	6,428	16,440
1960	2,240	288	1,153	3,394
1961	483	87	350	833
1962	150	57	228	378
1963	174	15	60	233
1964	87	25	100	187
1965	87	86	342	430
1966	[a]	94[a]	376	376

[a]In 1966, the separate categories for frozen and dried were consolidated into one item.
Source: Dominion Bureau of Statistics, *Trade of Canada*, Catalogue No. 65-202.

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TABLE 3—SUPPLY AND DISAPPEARANCE OF PROCESSED EGG PRODUCTS IN CANADA, 1957 TO 1967

	Beginning Stocks Frozen Eggs	Imports	Production[a]	Supply	Exports	Ending Stocks Frozen Eggs	Apparent Dis-appearance[b]
	thousand pounds liquid equivalent						
1957	5,182	1,168	25,633	31,983	304	13,317	18,362
1958	13,317	1,347	16,967	31,631	6,749	6,207	18,675
1959	6,207	564	28,690	35,461	16,440	4,639	14,382
1960	4,639	896	21,800	27,335	3,394	5,820	18,121
1961	5,820	1,076	17,236	24,132	833	2,954	20,345
1962	2,954	1,084	21,301	25,339	378	4,700	20,261
1963	4,700	870	18,255	23,825	233	3,884	19,708
1964	3,884	1,039	23,212	28,135	187	6,887	21,061
1965	6,887	1,919	23,350	32,156	430	4,425	27,301
1966	4,425	9,366	18,265	32,056	376	2,683	28,997
January-August[c]							
1966	4,425	6,100	13,952	24,477	—	4,722	19,755
1967	2,683	5,900	23,251	31,834	—	7,828	24,006

[a]From 1957 to 1964, production in registered plants of frozen eggs only.
[b]From 1957 to 1964, apparent disappearance of frozen eggs and imported egg solids only.
[c]Preliminary supply and apparent disappearance.

BEEF PRODUCTION BY SEX AND GRADE

Beef production is one of the biggest single sources of farm cash income for Canadian farmers, accounting for $886.5 million or 21 per cent of the $4.3 billion farmers received in 1966 for all farm commodities. On a provincial basis Ontario led with $295 million, followed by Alberta with $228 million and Saskatchewan with $152 million. In recent years beef production in Canada has been expanding rapidly. Farm cash receipts from cattle and calves increased 122 per cent, or by $487 million, from 1956 to 1966 while total cash receipts from all farm products increased 69 per cent.

Likewise, in the United States the most important single source of farm cash income is beef. In 1966, cash receipts from beef amounted to $10.4 billion, nearly a quarter of the $42.9 billion farmers received for all farm products.

Since the early 1950's beef production in Canada has more than doubled. The main factor contributing to the sharp increase in beef output is an ever-growing consumer appetite for more beef. Largely due to the sharp rise in personal income, per capita beef consumption increased from 50.6 to 82.7 pounds between 1950 and 1966, or a rise of 32 pounds per capita. The increase in population of 45 per cent since 1950 has also contributed to the increased demand for beef. The Canadian cattlemen have met this demand by increasing the production of beef at an average annual rate of 8 per cent.

Associated with the overall growth of the beef industry have been significant changes in the sex and quality of beef produced. In 1950, dairy cows exceeded beef cows by 2.2 million head whereas in 1967 beef cows, at nearly 3 million head, exceeded dairy cows by 300,000 head. With the changing makeup of the cattle population, the sex and quality of beef produced has also altered substantially. Steer marketings have increased proportionately and currently account for half of total marketings (Figure 1). Heifer marketings have also shown some increase but the proportion of cow and bull marketings has declined. The decrease in the proportion of cow marketings reflects the reduction in the number of dairy cows and the increasing proportion of calves being held for commercial cattle feeding and later slaughtered as beef. In fact, while total cattle numbers in the last 15 years have risen, calf marketings for veal have not increased.

Throughout the past 15 years beef output by grade has also changed significantly. Fifteen years ago Choice and Good grade carcasses accounted for less than 20 per cent of total gradings (Figure 1). In 1966, over half of the beef graded was within the top two grades, Choice and Good. Much of the increased output of beef and of the increase in the proportion of Choice and Good grade carcasses have been the result of the growth and development of commercial cattle feeding in Canada, especially in Southern Alberta and Southwestern Ontario.

BEEF PRODUCTION

CANADA

MARKETINGS[1] BY SEX



INSPECTED SLAUGHTER BY GRADE



1. Marketed at stockyards plus direct deliveries to packing plants, excludes feeder cattle marketed.
2. In 1958 commercial was separated into standard and commercial grades.

FIGURE 1

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Since the early 1950's, production of lower grade beef—Standard, Commercial, Utility, Manufacturing and Bulls—has shown a general increase. However, its proportion relatively to total gradings has steadily declined from more than two-thirds to less than one half. The decrease is consistent with the increase in the top two beef grades.

Future changes in the distribution of beef production by sex and grade are expected to follow the general pattern of recent years. The proportion of steer beef should continue upward but the rate may be slower than during the past 15 years. The proportion of heifer beef should also move steadily upward but cow beef's share of the total will likely continue to decline. Fluctuations in cow slaughter will likely continue and remain subject to dairy cow liquidation, demand for feeder cattle, weather conditions and feed costs.

With the demand for high quality beef expected to remain strong, the proportion of Choice and Good grades likely will continue to rise. Consumer preference for high quality beef could enhance fed beef production and further stimulate the growth of commercial cattle feeding. The proportion of lower grades of beef produced will be influenced by consumer preferences for these grades but in the long run the trend will likely be downward. With the decline in the proportion of cow slaughter, the supply of beef for processing may become proportionately less.

A. M. Boswell

LOCATION AND SIZE OF HOG ENTERPRISES

The 1966 Census of Agriculture provides a set of benchmark data on the changes that have occurred in Canada's hog industry. When set beside the information from the three previous censuses, the data give new insight on the trends in the location and size of hog enterprises.

In Canada, hogs in 1966 were 10 per cent greater in number than in 1951, but there were cyclical variations in this 15-year period. In the first five years of the period, hog numbers declined. During the next five years there was a large increase, followed by a levelling-off in the last five years (Table 1). The regional changes in hog numbers have been more significant. During the 1951-56 period, hogs decreased in the East and increased in the West, followed by an increase both East and West during the 1956-61 period. In the most recent five years there was an increase from 2.75 million to 3.29 million or 20 per cent in Eastern Canada and a decrease from 2.58 million to 2.12 million or 18 per cent in Western Canada. All provinces in the East showed increases except New Brunswick. In the West, only Manitoba increased hog numbers.

The number of census farms reporting hogs has declined from 364,068 to 154,328 or a decrease of 58 per cent from 1951 to 1966. In Eastern Canada, the decline was greater, 63 per cent, while the West decreased only 50 per cent. Provincially, Nova Scotia showed the greatest decrease, 82 per cent and Alberta the least with 43 per cent.

In 1951, the number of hog-reporting farms in the East was half again as large as in the West, but by 1961, East and West had nearly equal numbers of hog-reporting farms. The decline between 1961 and 1966 in hog reporting farms was 32,743 in the West and 36,338 in the East. This represents a 31 per cent decrease in both areas. This very rapid decline in the number of farms reporting hogs indicates that the hog industry in Canada is changing phenomenally. If the trend continues, or even slows, by 1971, year of the next census, there could be a decline to 100,000-110,000 farms reporting hogs. This is less than half the number of farms reporting in 1961.

Over the period of rapid decline in the number of hog-reporting farms, the average number of hogs per farm increased 150 per cent, from 14 in 1951 to 35 in 1966. The regional variations are significant. From 1951 to 1956, the West increased hog numbers and decreased hog farms and thus showed a rapid increase in the average per farm. It is possible that this increase in the West was associated with lagging wheat sales and larger farm stocks of wheat. At the same time, in Eastern Canada, the number of farms decreased far more, but the hog numbers also decreased, thus the average number of hogs per farm showed little change. From 1956 to 1961 when both East and West increased hog numbers, the East decreased hog farms more rapidly than the West and thus increased the average number of hogs per farm more rapidly. In 1961, both East and West averaged 24 hogs per farm. From 1961 to 1966, the average number of hogs per farm in the East showed three times the increase in the West. From the equal base of 24, the East increased to 41 and the West to only 29. This was the period when hog numbers in the East rose by 20 per cent and fell by 18 per cent in the West.

Provincially, excluding Newfoundland with its small hog population, Quebec increased the most, followed by Ontario, Prince Edward Island, and Nova Scotia. New Brunswick showed relatively little change but still more than all Western Provinces except Manitoba. This was probably because of the better markets for wheat in the 1960's.

If efficiencies of size are being realized by producers, the trend to larger and fewer hog farms will continue in both East and West. It is likely that the average number of hogs per farm will advance to 50 or 60 by 1971, with Quebec, Alberta and Ontario continuing to show the lead. However, recent price declines in wheat may encourage Western hog farmers to increase hog numbers as they search for means of converting crop production to cash.

D. W. Sword

TABLE 1—TRENDS IN THE NUMBER OF HOGS, FARMS REPORTING HOGS AND AVERAGE NUMBER ON FARMS, CANADA AND PROVINCES, 1951, 1956, 1961 AND 1966

	1951	1956	1961	1966
	numbers			
Canada				
Total	4,915,987	4,732,799[a]	5,332,736	5,408,580
Census farms reporting	346,086	287,357	223,402	154,328
Average on farms	14	16	24	35
Eastern Canada				
Total	3,064,616	2,570,396	2,748,874	3,291,121
Census farms reporting	216,510	163,445	116,847	80,509
Average on farms	14	16	24	41
Western Canada				
Total	1,851,371	2,162,305	2,583,860	2,117,459
Census farms reporting	147,558	123,908	106,554	73,819
Average on farms	12	17	24	29
Newfoundland				
Total	1,712	1,820	1,554	7,307
Census farms reporting	380	219	135	150
Average on farms	4	8	12	49
Prince Edward Island				
Total	72,499	46,676	54,873	82,907
Census farms reporting	7,447	5,286	3,874	2,824
Average on farms	10	9	14	29
Nova Scotia				
Total	48,216	32,670	46,856	57,499
Census farms reporting	11,552	6,869	3,774	2,132
Average on farms	4	5	12	27
New Brunswick				
Total	78,393	53,856	47,126	34,136
Census farms reporting	15,009	9,731	5,087	2,893
Average on farms	5	6	9	12
Quebec				
Total	1,108,306	887,094	912,125	1,173,687
Census farms reporting	88,558	68,287	47,599	30,683
Average on farms	12	13	19	38
Ontario				
Total	1,755,490	1,548,280	1,686,340	1,935,595
Census farms reporting	93,564	73,053	56,378	41,827
Average on farms	19	21	30	46
Manitoba				
Total	337,953	310,423	431,462	499,192
Census farms reporting	33,007	25,893	22,045	16,048
Average on farms	10	12	20	31
Saskatchewan				
Total	533,263	591,902	640,801	488,173
Census farms reporting	58,624	48,367	40,693	26,987
Average on farms	9	12	16	18
Alberta				
Total	930,714	1,211,508	1,469,969	1,092,672
Census farms reporting	49,660	45,643	41,017	28,544
Average on farms	19	26	36	38
British Columbia				
Total	49,441	48,472	41,628	37,442
Census farms reporting	6,267	4,005	2,799	2,240
Average on farms	8	12	15	17

[a]Includes Yukon and Northwest Territories.

DAIRY INDUSTRY SHIFTS

One of the important changes in the Canadian dairy industry in the 1960's has been the shift away from the use of farm-separated cream in the manufacture of butter. In 1960, about 67 per cent of the creamery butter produced in Canada originated from farm-separated cream, but by 1966, it had fallen to around 44 per cent. This trend to larger quantities of milk separated at the factory has been accelerated in 1967.

The greatest changes have occurred in the large milk-producing provinces of Quebec and Ontario. In 1966, about 20 per cent of the creamery butter produced in Quebec and 28 per cent produced in Ontario originated from farm-separated cream. There has been no appreciable change in the Atlantic Provinces or the Prairie Provinces, where most of the creamery butter—100 per cent in the case of Saskatchewan—is produced from cream separated on the farm. Only a very small amount of the butter produced in British Columbia is from this source.

The labor involved with separating cream on the farm, the trend towards fewer and larger dairy herds, higher prices for manufacturing milk, the preference for soybean concentrates in feeding hogs, and a reduction in the number of creameries, have all contributed to the shift. However, the skim milk that was previously utilized on the farm now has to be processed at the factory, which means that an increasing quantity of milk by-products is available. Whether skim milk powder or casein is manufactured from skim milk depends on relative prices and export opportunities for each product. Casein production jumped in 1961 and 1962 (Table I), when milk powder prices on world markets were extremely low.

Table 1 shows the increases which have taken place in the production of skim milk powder and casein since 1960. Although considerable fluctuation has occurred in the production of all products since 1960, in recent years there has been a steady decrease in the production of creamery butter, while skim milk powder production has been increasing rapidly.

Production of skim milk powder is expected to reach a record high of close to 300 million pounds in 1967—about 35 million pounds more than the output of last year and 130 to 135 million pounds above expected domestic requirements. Casein production, on the other hand, will probably be down 40 to 50 per cent from last year's output of 24 million pounds. It requires more than three times as much skim milk to produce a pound of casein as it does to produce a pound of skim powder, which partly accounts for the increase in skim powder output this year.

TABLE 1—PRODUCTION OF CREAMERY BUTTER, SKIM MILK POWDER AND CASEIN, CANADA, 1960-1967

Year	Creamery Butter	Skim Milk Powder	Casein
		thousand pounds	
1960	320,403	171,969	8,000
1961	352,133	213,029	14,024
1962	361,723	192,292	22,197
1963	351,919	176,086	21,426
1964	351,742	203,047	20,150
1965	337,381	222,155	23,153
1966	334,130	263,508	24,440
January-July			
1966	196,770	153,451	13,623
1967	187,427	177,310	10,399

Canada is already faced with the problem of excess supplies of skim milk powder. Normal Canadian exports, including food aid, for the five-year period, 1962-1966, averaged 58 million pounds annually. Exports last year were directed to over 40 countries, with the largest quantities going to Japan. Exports for the first six months of 1967, at around 74 million pounds, were abnormally high, largely as a result of increased aid for famine relief. Canadian exports for the second half of the year are expected to be one-half the amount of the January-June period.

Skim milk powder production is on the rise in many of the principal exporting countries—particularly in Western Europe. Production in the United States, which was down sharply in 1965 and 1966, is on the upswing again. This increase in the world's supply makes Canada's position more difficult.

The Canadian Dairy Commission's buying price for spray process skim milk powder for the 1967-68 dairy year is 20¢ a pound. To compete on world markets, Canadian skim powder usually requires some export assistance. Export subsidies will be deducted on a holdback basis from the $1.21 a 100 pounds paid to eligible milk and cream producers through the dairy support policy.

V. McCormick.

COSTS AND RETURNS FROM FEEDER HOGS IN NOVA SCOTIA

G. C. Retson

In 1962 a study of 19 feeder hog enterprises in Nova Scotia and New Brunswick was conducted by the Economics Branch of the Canada Department of Agriculture. Requests were received for continuation of the project and since 1964 financial data on their hog operations have been secured from a small group of farmers. This article reviews data on costs and returns and some of the developments which have occurred in hog production on these farms.

Commencing with four case study farms in 1964 the project was expanded to seven hog feeder operations in 1965 and 1966. Farms are located in three of the main hog producing counties of Nova Scotia. All operators keep detailed farm accounts. While somewhat above average in terms of size and management their operations are typical of and could readily be duplicated in most parts of the Atlantic region.

Initially the project was conducted on a calendar year basis. As a result of requests for more current information, data are currently collected and analyzed on a six month basis which is in line with the practice of marketing two crops of feeder hogs per year. Costs and returns are calculated for the January 1 to June 30 and July 1 to December 31 periods as well as for the calendar year. A statement of 1966 hog business operations is shown in Table 1.

TABLE 1—AVERAGE COSTS, RETURNS AND RELATED FACTORS, 7 FEEDER HOG OPERATIONS IN NOVA SCOTIA, 1966

	Jan. 1 to June 30 1966	July 1 to Dec. 31 1966	Jan. 1 to Dec. 31 1966
Sales of market hogs ..... $	12,175.00	12,259.93	24,434.93
Government premiums ..... $	536.64	544.57	1,081.21
Inventory increase ..... $	—	1,513.37	1,177.87
Inventory decrease ..... $	335.50	—	—
Total hog receipts ..... $	12,376.14	14,317.87	26,694.01
Feed ..... $	5,948.38	7,232.59	13,180.97
Weanling pigs ..... $	3,160.04	4,569.83	7,729.87
Veterinary, trucking and miscellaneous ..... $	206.49	181.06	387.55
Use of buildings and equipment ..... $	180.48	203.70	384.18
Interest on investment in livestock ..... $	117.77	129.86	247.63
Marketing costs ..... $	204.25	232.34	436.59
Total hog expenses ..... $	9,817.41	12,549.38	22,366.79
Hog labor returns ..... $	2,558.73	1,768.49	4.327.22
Labor returns per hog raised ..... $	12.20	6.64	9.09
Labor returns per hog marketed ..... $	12.09	7.28	9.52
Returns per hour of labor ..... $	8.74	6.22	7.50
Price received per hog (including govt. premiums) ..... $	60.48	53.49	56.11
Feed cost per hog raised ..... $	28.36	27.17	27.69
Price paid per weanling ..... $	15.30	15.04	15.14
Feed cost per 100 pounds ..... $	4.19	4.25	4.22
Hogs marketed ..... number	212	243	455
Grade A hogs ..... per cent	66.5	60.7	63.4
Dressed weight per hog marketed ..... pounds	156	153	155
Hogs raised ..... number	210	266	476
Feed per hog raised ..... pounds	677	640	656
Labor on hogs ..... hours	2,050	1,991	4,041
Labor per hog raised ..... hours	1.40	1.07	1.21
Mortality ..... per cent	4.3	2.6	3.4

Hog Receipts

Farms in the project sold an average of 455 hogs worth $24,434.93 at market prices in 1966.

Of these, 63.4 per cent were Grade A and premiums for quality added $1,081.21 to receipts. High prices for hogs in the early part of 1966 increased receipts but created difficulty in securing weanling pigs. As a result inventories at June 30 were $335.50 lower than at January 1. The supply situation improved during the latter part of the year and this combined with expanded operations on two farms resulted in an average inventory increase of $1,177.87 for the year.

Hog Expenses

Feed was the major item accounting for 59 per cent of hog enterprise expenses. Survey farms used an average of 656 pounds of feed per hog raised to market age. Feed consisted entirely of prepared commercial rations. Feed prices increased by 6 cents per 100 pounds during the latter part of the year but with a reduction of 37 pounds in consumption, feed costs declined by $1.14 per hog. Part of the reduction in feed consumption was associated with the fact that hogs were marketed at lower weights during the latter half of the year. Another contributing factor was lower mortality.

Weanlings were the second major expense item and accounted for 35 per cent of hog expenses. Prices of weanlings declined slightly but as inventories were increasing weanling costs per hog increased by $2.13 during the latter part of the year.

Items other than feed and weanlings accounted for only 6.5 per cent of hog enterprise expenses. On a per hog basis there was a slight decline in all these items during the latter part of the year. Contributing factors were increased scale of operation and transportation assistance on market hogs provided by the provincial Department of Agriculture. These items, which do not include a charge for labor, will be discussed in more detail in a later section dealing with production costs.

Hog Labor Returns

After deducting expenses from receipts (as calculated above) farms in the study had a balance of $4,327.22 per farm from hogs. This balance referred to as hog labor returns, represents the return to labor and management for time spent on the hog enterprise. With an average of 4,041 hours of labor on hogs, these farms secured a return of $7.50 per hour for time spent on the hog enterprise in 1966.

As indicated by data in Table 1, a significant aspect of hog feeder operations in 1966 was the variation in returns between the first and second half of the year. Labor returns which averaged $12.20 per hog on survey farms in the January 1 to June 30 period dropped to $6.20 per hog during the latter half of the year. Much of this variation is attributable to prices which reached an all time high in February ($42.56 per 100 pounds, dressed, Grade A hogs—Moncton) and then declined by about $10 during the balance of the year. On study farms the price decline was further accentuated by a reduction in dressed weights and percentage of Grade A hogs marketed during the latter part of the year. Average monthly prices of Grade A hogs in 1966 at $35.68 per 100 pounds (Moncton) were $6.29 higher than those for the past 10 years. During the 1957-66 period average monthly July-December prices exceeded those for the first half of the year by 78 cents per 100 pounds.

In Table 1, hog labor returns are expressed both in terms of hogs marketed and hogs raised to market age. Where there is little variation in beginning and end of year inventories, marketings approximate production and provide a good indication of scale of operations as well as a basis for calculating efficiency measures. Where there is a substantial change in inventory, however, marketings are not an accurate measure of output. Accordingly an alternative measure "hogs raised to market age", has been used in the analysis. To calculate this measure, hog marketings were adjusted by the amount of the inventory increase or decrease in the business year expressed in terms of hog equivalents. Data in Table 1 do not indicate much variation between the two measures, but the variation was quite significant in some of the individual reports prepared for farms co-operating in the project.

As a further comment on procedure it may be noted that inventory adjustments are a major problem in analysis of hog feeder operations and particularly where these are calculated on a six month basis. With hogs normally marketed on a weekly basis, frequent purchases of weanling pigs are required to maintain operations at a high level of output. In adjusting inventories one may have to calculate hog equivalents and values for many separate lots of pigs ranging from weanling to market age. In the project the age of each lot of hogs was recorded in the beginning and end of year inventories. Using Test Station and other data, growth rates in hogs were plotted from four weeks to market age on a graph and provided the basis for establishing fractional hog equivalents.

As indicated by the data in Table 1, 1966 was a favorable year for hog producers in Nova Scotia. A comparison of 1966 data with that secured in

previous years indicates considerable annual variation in costs, returns and related factors.

Data in Table 2 are drawn from different groups of farms but hog operations were generally comparable in terms of size, organization and management practices. Data for 1961 consist of actual costs and returns from 19 enterprises studied in Nova Scotia and New Brunswick. Data for 1962 and 1963 are based on the same study but adjusted according to changes in feed costs and hog prices during these years. Data for 1964 are from the four farm case study project while those for 1965 and 1966 include records provided by three additional farms.

Labor returns for the groups of farms studied ranged from a low of $1.65 in 1963 to a high of $10.80 per hog in 1965 or a spread of $9.15 per hog between the low and high years. On a farm to farm basis the variation was even greater. In 1961 the variation in labor returns ranged from a loss of $1.89 to a high of $8.64 per hog or a spread of $10.53 in labor returns per hog between the high and low farms. With smaller samples in the 1964-66 period farm to farm variation tended to be somewhat lower. Data in Table 2 combined with that of hog production costs in Table 3 provide some indication of factors influencing variations in returns as well as recent developments which have taken place in the hog enterprise.

With expenditures for feed and weanling pigs representing about 90 per cent of production costs

TABLE 2—AVERAGE COSTS AND RETURNS FROM FEEDER HOG ENTERPRISE STUDIES, NOVA SCOTIA, 1961-1966

	19 Hog Enterprises			4 Hog Enterprises	7 Hog Enterprises	
	1961	1962	1963	1964	1965	1966
Hog receipts ..... $	20,166	20,830	19,806	13,562	23,871	26,694
Hog expenses ..... $	17,888	19,016	19,045	12,247	19,086	22,367
Hog labor returns ..... $	2,278	1,814	761	1,315	4,785	4,327
Labor returns per hog marketed:						
average ..... $	4.93	3.93	1.65	4.38	10.80	9.52
high-low spread ..... $	10.53	10.62	10.71	4.88	8.06	6.00
Price per 100 pounds Grade A Hogs[a]						
Maritimes ..... $	28.38	29.36	27.85	27.44	33.12	35.65
Cost per 100 pounds Hog Grower[b]						
Maritimes ..... $	3.90	4.29	4.30	4.13	4.18	4.45
Price paid per weanling ..... $	10.43	10.43	10.43	13.16	13.77	15.14
Feed per hog raised ..... pounds	724	724	724	n.a.	652	656
Feed cost per hog raised ..... $	24.39	26.83	26.90	23.88	26.03	27.69
Number of hogs marketed ..... number	462	462	462	301	443	455
Grade A hogs ..... per cent	56.4	56.4	56.4	65.7	66.7	63.4
Mortality ..... per cent	6.0	6.0	6.0	4.7	2.4	3.4

[a]Canada Department of Agriculture, *Prices and Price Indexes.*
[b]Dominion Bureau of Statistics, Ottawa, *Livestock Market Reports.*
n.a. Not available.

TABLE 3—COST OF PRODUCING FEEDER HOGS IN NOVA SCOTIA, 1961 AND 1966

	19 Hogs Enterprises 1961		7 Hog Enterprises 1966	
	Cost per Hog	Percent of Total	Cost per Hog	Percent of Total
	dollars		dollars	
Feed	24.39	62.1	27.47	57.3
Purchased weanlings	10.49	26.7	16.11	33.6
Marketing costs	1.38	3.5	0.96	2.0
Veterinary, trucking and miscellaneous	0.66	1.7	0.81	1.7
Use of buildings and equipment	0.67	1.7	0.80	1.7
Interest on livestock	0.46	1.2	0.52	1.1
Labor	1.23	3.1	1.24	2.6
Total cost per hog marketed	39.28	100.0	47.91	100.0

(Table 3) much of the variation in hog returns is accounted for by variations in these items and prices received for hogs. Related management practices are directed mainly at improving hog quality and in reducing the amount and cost of feed required to finish a hog.

Hog grading percentages which rose to 66.7 per cent Grade A in the 1965 study compare very favorably with those for Canada which increased from 34.2 to 42.0 per cent Grade A in the 1961-66 period. In years of high prices there is a tendency to emphasize output rather than quality and this may account for the slight drop in percentage of Grade A hogs marketed by study farms in 1966. A similar decline occurred in the Atlantic region.

The decline in feed consumption per hog from 1961 to 1966 reflects the influence of a number of factors including restricted feeding and elimination of finishing rations, the purchase of heavier and more mature weanlings, lower mortality and an overall improvement in management.

In the 1961 study, purchase of weanlings at four weeks of age was a fairly common practice. Weanlings purchased in 1966 were at least five or six weeks of age and sometimes older. The low cost of feed per hog in the 1964 study reflects the purchase of heavier weanlings and some SPF (Specific Pathogen Free) pigs. While such purchases reduce feed consumption the savings in feed is to some degree offset by higher charges for weanlings. This is borne out by data in Table 3 which indicate a decline in feed as a percentage of total hog production costs and an increase in that for purchased weanlings.

In 1961 nearly all of the enterprises were on a full feeding program and 14 of the 19 operators fed a finishing ration. In 1966 all of the farms practised some form of restricted feeding and no hog finishing ration was fed.

Farmers in the project were more concerned over growth setbacks than losses, but mortality which declined after 1961 is probably a more important factor in feed consumption than is generally recognized. A number of the operators in the 1961 study had only a few years experience in commercial hog production. Farmers in 1966 had considerably more experience and this plus an accelerated program of research and extension in the period is reflected in higher levels of management.

Data in Table 3 indicate a considerable reduction in marketing costs in the 1966 study. This reflects the combined influence of a reduction in Marketing Board charges and transportation assistance on market hogs previously noted. Farmers in the 1961 study used an average of 1.64 hours of labor per hog valued at 75 cents per hour. In the 1966 study, chore time had declined to 1.21 hours per hog but the charge for labor increased to $1.03 per hour. The net result was a slight increase in the charge for labor but a decline in the percentage it represented of total production costs.

A significant characteristic of hog feeder operations is the high percentage which feed and weanling pigs represent of total production costs and the relatively low charges for other items including labor. A related factor is that scale of operation appears to exert less influence on costs and returns from hogs than for other livestock enterprises and particularly poultry which is its closest counterpart in the region. Hogs, which are on the increase (Table 4) may provide a valuable replacement for poultry which has currently moved off the smaller farms and is now concentrated in large factory-type operations.

A critical problem of feeder hog production is that of securing weanling pigs. Farmers in the 1961 study stressed the problems involved in securing quality and continuity of supply and an analysis of

TABLE 4—NUMBERS OF HOGS AND FARMS REPORTING HOGS IN THE ATLANTIC PROVINCES, 1931-1966

Province	1931	1941	1951	1961	1966
	number of hogs				
New Brunswick	85,012	68,018	78,393	47,126	34,126
Nova Scotia	43,865	44,303	48,216	46,856	57,499
Prince Edward Island	40,586	48,205	46,676	54,873	82,907
Newfoundland	n.a.	n.a.	1,712	1,554	7,307
Atlantic Provinces	169,463	160,526	174,997	150,409	181,839
	number of farms				
Farms Reporting	49,405	46,019	34,388	12,870	7,999

Source: Dominion Bureau of Statistics, *Census of Canada.*
n.a. Not available.

this operation indicated than five minutes time and a mile of driving were involved per weanling pig purchased.

In the poultry industry, replacement stock are provided by large hatchery operations. Parallel developments to date in hog nurseries have not been very satisfactory or extensive and feeders generally depend on smaller farmers for their supply of weanling pigs. Unfortunately many of these operators have little knowledge of their costs or current developments in breeding and management. As a result large sow operations frequently have to compete with an inferior product which tends to establish low market prices for weanling pigs. With feeder operators more selective in their purchases and increased buying of pigs on a weight and formulae basis prices have moved up sharply in recent years (Table 2) and should benefit sow operations.

Data obtained in the various studies indicate that hogs may be a relatively profitable enterprise on Nova Scotia farms. In view of the relatively small scale of operation and variations in efficiency on study farms there appear to be good possibilities for increased income from this operation. The highly deficit position of the Atlantic region in pork production provides further opportunity and incentive for expanding the enterprise.

TABLE 5—PRODUCTION, CONSUMPTION AND NET POSITION OF PORK AND PORK PRODUCTS IN THE ATLANTIC PROVINCES, 1965

	Production	Requirements	Deficit or Surplus	Deficit or Surplus Equivalent
		thousand pounds		number hogs
New Brunswick	8,775	28,533	−19,758	−151,985
Nova Scotia	13,156	34,702	−21,546	−165,738
Prince Edward Island	14,508	5,054	+ 9,454	+ 72,723
Newfoundland	627	21,165	−20,538	−153,269
Atlantic Provinces	37,066	89,454	−52,388	−398,269

Source: Dominion Bureau of Statistics, Maritime Office, Truro, N.S.

94106—3½

FARMING IN THE CRESTON VALLEY OF BRITISH COLUMBIA

M. M. Sorboe

Many requests are received by the provincial and federal government authorities for assistance on specific projects under the ARDA program. Among those considered during 1964 and 1965 was a request from a committee representative of farmers and other interested groups in the Creston, British Columbia area for assistance in conducting a feasibility study of the economics of consolidating and expanding the present irrigation system.

As an initial step, a survey was conducted in 1965 and 1966 by the Economics Branch, Canada Department of Agriculture to obtain the most recent information on the organization of farms, the land use patterns and the financial returns of the various types of farming enterprises in the area.

General Description

The Creston Valley is located in southeastern British Columbia about 472 road-miles east of Vancouver. It is the largest agricultural area in the Purcell Trench, comprising approximately 75,000 acres of land. Mountain ranges extend the entire length on both sides in a north-south direction.

Most of the estimated 30,000 cultivated acres lie between the south end of Kootenay Lake and the International Boundary. These farmlands can be separated into two broad classes:

(1) The flats—about 18,000 acres of reclaimed alluvial soil; and

(2) Benchland—about 12,000 acres on the east side of the valley with soils varying from a sandy loam in the north to a fairly heavy clay in the southern portion.

The altitude of the Creston Valley ranges from 1,700 feet above sea level on the flats to a maximum of 2,100 feet on the benchland.

Average annual total precipitation is approximately 18.5 inches but the monthly rainfall from May to September is only about one inch. Temperatures are moderated by the proximity of a large body of water and by frequent thunder showers during the summer. Very little sub-zero weather is experienced in the winter.

In 1961, the most recent census year for which final information is available, the population of the Creston area was 7,990 persons. The village of Creston, the largest community in the valley, had a population of 2,460 in the same year. A preliminary census count for 1966 showed 2,850 persons. In 1961, about 570 persons were classed as farmers and 1,250 persons were employed in the service industries. Forestry, including logging, saw-mill operations and veneer manufacture, is second to agriculture in economic importance to the area. The recent establishment of a brewery has added substantially to the growing employment opportunities of the district.

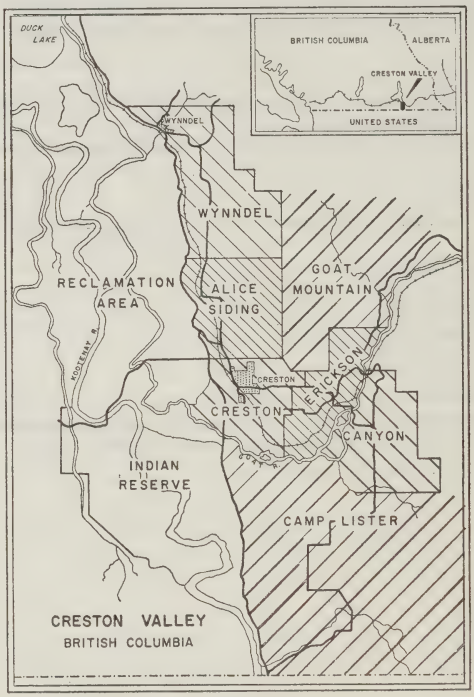


FIGURE 1

One of the most interesting features of agriculture in the Creston Valley is its diversity. Activity on the flats consists mainly of the production of cereal grains such as wheat, oats and barley. Hay, seed peas and potatoes are secondary crops. A few farmers on the flats have a mixed type of operation, combining crop production with the raising of beef cattle.

The northern end of the adjacent benchland is used primarily for the production of tree fruits. Some acreages of small fruit are still to be found in the Wynndel district despite the growth of non-agricultural industries. Farms vary from a predominance of small, part-time orchards to a few full-time operations. The soils range from sandy loam to silty clay,

the latter being more readily irrigated and hence more suitable for tree fruit production.

The Camp Lister district comprises that part of the benchland lying south of the Goat River. It is largely a mixed farming area, but specialization has developed over the last two decades. The three main types of farms are hay, hay-beef and dairy. All of the fluid milk shippers in the Creston area are located in the Camp Lister district. Secondary production includes peas, potatoes and grain on a restricted acreage basis. Irrigation has not extended very far south of the Goat River; consequently, tree fruit production is confined to the region lying within the Canyon district. The soils in the Camp Lister district vary from medium to heavy clays, the latter with excellent moisture retaining capacity.

Figure 2 shows the location of each of the local administrative districts within the Creston Valley area.

The quantity and value of crop production in 1965 in the Creston Valley has been estimated as follows (*1*):

	Quantity	Value
	tons	dollars
Cereal grains	13,000(*2*)	600,000
Peas	1,143.5	103,140
Potatoes	4,050	105,900
Apples	11,063	683,943
Pears	311.2	34,230
Prunes	310.2	26,082
Cherries	44	13,464
Raspberries	132.5	70,126
Strawberries	55.5	23,129

There were estimated to be 2,000 beef breeding females and 2,000 head of dairy cattle in the area. The latter include 575 to 600 milk cows on 17 licensed fluid milk farms (*3*).

RESULTS OF THE STUDY

Detailed business records for 1964 were obtained from 36 Creston area farmers engaged in producing grain, hay, beef cattle and milk for the fluid milk market. In 1966, 24 orchardists were interviewed and records completed for the 1965 business year. These farms were selected by district on the basis of size and numbers of farms in each district so that the sample would represent all types of farms according to their frequency and their economic importance to the area.

The farms were classified according to size into full-time and part-time farms. A part-time farm was defined as one with less than 250 productive-man-work units (*4*) for the year. The full-time farms were subsequently sorted according to source of income, into grain, hay-beef, dairy and orchard enterprises. The averages obtained from the data of these groups of farms provided the basis for the comparisons of commercial farming given in the tables.

Farm Capital and Liabilities

Data on farm capital and capital indebtedness are shown by type of farm in Tables 1 and 2. Some of the most significant differences between farm types were:

(1) Average total capital investment for grain farms was almost twice the amount for hay-beef and dairy farms.

TABLE 1—CAPITAL INVESTMENT, 39 COMMERCIAL FARMS, CRESTON VALLEY, 1964-65

	Farm Type			
	Grain	Hay-Beef	Dairy	Orchard
Year	1964	1964	1964	1965
Number of farms	8	8	12	11
	dollars per farm			
Land				
Improved	86,414	26,264	17,068	21,636
Unimproved	—	7,734	3,989	196
Buildings				
House	[a]	4,937	5,375	6,413
Other	3,946	7,095	10,238	2,009
Equipment				
Power	16,052	6,693	5,528	3,976
General	4,687	2,183	5,448	1,967
Irrigation	—	—	246	457
Livestock				
Dairy	56	78	11,864	—
Beef	7,594	11,148	5	—
Other	131	97	32	—
Feed, seed, fertilizer	4,494	3,000	2,649	—
Total capital	123,374	69,229	62,442	36,654

[a]Most of the Creston Flats farmers had residences in town or elsewhere; the value of houses was excluded therefore.

TABLE 2—LIABILITIES AND NET WORTH, 39 COMMERCIAL FARMS, CRESTON VALLEY, 1964-65

	Farm Type			
	Grain	Hay-Beef	Dairy	Orchard
Year	1964	1964	1964	1965
Number of farms	8	8	12	11
	dollars per farm			
Owing beginning of year	19,538	3,750	16,589	4,825
Borrowed during year	700	4,031	6,622	270
Paid during year	3,304	1,393	2,745	616
Owing end of year	16,934	6,388	20,466	4,479
Net change in capital debt	−2,604	+2,638	+3,877	−346
Net increase in farm inventories	1,773	4,005	6,083	53
Increase in farm net worth	4,377	1,367	2,206	399

TABLE 3—FINANCIAL SUMMARY, 39 COMMERCIAL FARMS, CRESTON VALLEY, 1964-65

	Farm Type			
	Grain	Hay-Beef	Dairy	Orchard
Year	1964	1964	1964	1965
Number of farms	8	8	12	11
	dollars per farm			
Crop sales	21,806	4,475	623	4,369
Livestock sales	1,986	3,907	1,047	—
Milk sales	—	—	15,812	—
Other farm receipts	604	415	417	108
Total current receipts	24,396	8,797	17,899	4,477
Capital receipts	631	832	408	145
Net inventory increase	1,773	4,005	6,083	53
Total farm receipts	26,800	13,634	24,390	4,675
Crop expenses[a]	3,267	454	589	505
Livestock expenses[b]	1,149	2,853	6,198	—
Equipment operation[c]	3,270	1,364	3,052	544
Hired labor	2,178	691	1,061	677
Real estate expenses	2,718	983	1,018	201
Miscellaneous	234	206	408	86
Total current expenses	12,816	6,551	12,326	2,013
Capital expenses	2,985	3,550	5,799	972
Total farm expenses	15,801	10,101	18,125	2,985
Family farm income	10,999	3,533	6,265	1,690
Less—Interest on investment	6,169	3,461	3,122	1,833
—Unpaid family labor	416	606	1,091	655
Operator's labor income	4,414	−534	2,052	−798
Plus perquisites	311	925	937	661
Operator's labor earnings	4,725	391	2,989	−137
Non-farm income	655	1,424	378	1,110

[a] Includes purchased seed, fruit trees, fertilizers and spray material.
[b] Includes purchased livestock, feed, veterinary, medicines and supplies.
[c] Includes equipment operation, freight charges and custom work costs.

(2) The proportion of total capital invested in land and buildings was highest for orchards. This was because of the relatively high value placed on orchard land per acre. Grain farms had the second highest proportion of capital invested in real estate but for a different reason; they owned very large acreages compared with the orchardists.

(3) Each group showed an increase in farm net worth for the survey year. The increases in capital debts for hay-beef and dairy operators were more than offset in value by their additions to farm inventories.

Financial Summary

Summaries of farm receipts, expenses, operator's labor incomes and labor earnings are shown in Table 3. The operator's labor income represents the return to the farmer for his labor and management after deducting an interest charge of 5 per cent of total capital and the value of unpaid labor from family farm income.

Incomes on grain farms were closely associated with size in terms of crop acres. The four largest grain farms with crop acres ranging from 450 to 560 had operator's labor incomes progressing from $2,000 to $15,000. Conversely, the four grain farms with less than 450 crop acres had incomes varying from less than $2,000 to a negative labor income of nearly $300 for the operator.

The reasons for the variations in operator's labor incomes in the hay-beef group were less obvious, but the two farmers with the largest incomes were mainly cash hay-crop producers. From this point on down in the income array, the size of breeding cow herd was directly related to the operator's labor income. There appeared to be little connection, however, between the total size of farm and operator's labor income in this group. Management factors seemed to play a much greater part in the successful operation of beef type farms. Labor incomes varied from a high of about $5,000 to a low of –$6,000 with half of them having positive operator's labor incomes.

Operator's labor incomes on Creston fluid milk farms varied from about –$250 to $3,800. The main determinants of the size of labor income were the yield of milk per cow and the cost of production per unit of salable milk.

Only two full-time orchardists showed positive labor incomes. Incomes on orchards were low generally, but an obvious relationship existed between the size of orchard in terms of bearing acres and operator's labor income. All but one orchardist in the high income group of six farms had more than 10 acres of bearing orchard, whereas four of the five low income orchardists had less than 10 acres of productive orchard. To some extent this relationship was obscured by frost damage to stone fruits and Red Delicious apples in the 1965 survey year.

In the Creston Valley, logging and lumber operations, the brewery, service industries and other non-farm activities were important sources of income for farmers. Average off-farm income of the commercial hay-beef farmers and orchardists was more than $1,000 for each group. On the part-time farms of these types, average off-farm income exceeded $2,000 for both groups (Table 6).

Land Use and Values

Use of improved land is shown in Table 4 for each farm type. Cereal grains and peas accounted for 81 per cent of improved land on grain farms. Five operators in this group also produced alfalfa and/or mixed hay on an average of almost 70 acres.

Most of the improved land on hay-beef and dairy farms was used for the production of alfalfa hay. A few operators in each group produced a limited quantity of mixed hay. Cereal grain production was of little consequence on these farms. In terms of improved acres operated, the hay-beef and dairy farms were much smaller than the grain farms.

Apples were the main crop on the 11 full-time orchard farms, accounting for 73 per cent of the bearing acres. McIntosh was the main variety of apple produced, representing 70 per cent of total apple shipments by weight.

Average land values were to a large extent, linked to the type of farm enterprise. As might be expected, improved orchard land was valued the highest, almost $1,400 an acre, while grain farm land was the lowest, under $200 an acre. Hay-beef and dairy farmers valued their improved land at about $240 an acre.

Crop Yields

The yields of cereal grains, peas and hay were selected to indicate average production per acre on the flats. For all cereal grains, the yield approached 1.2 tons an acre; the pea yield was 0.5 tons (the 1963 average yield for the area was 0.65 tons of peas an acre) and the yield of hay on the grain farms was 3.3 tons. This was slightly higher than the benchland yield of 3.0 tons an acre.

Only the yield of apples was obtained for the orchards because extensive frost damage in the 1964-65 growing season resulted in little other marketable fruit. Pears, apricots, peaches, prunes and cherries suffered losses ranging from 50 to 100 per cent. The yield of about 485 boxes per orchard

TABLE 4—LAND USE, 39 COMMERCIAL FARMS, CRESTON VALLEY, 1964-65

	Farm Type			
	Grain	Hay-Beef	Dairy	Orchard
Year	1964	1964	1964	1965
Number of farms	8	8	12	11
	acres per farm			
Improved land				
Wheat	206.4	3.5	2.1	—
Oats	77.9	2.5		—
Barley	48.0	0.4		—
Peas	58.9	—	—	—
Forage seed	6.2	—	—	—
Alfalfa hay	12.5	87.8	51.3	—
Other hay	30.9	15.0	13.8	—
Bearing orchard	—	—	—	10.02
Non-bearing orchard	—	—	—	3.58
Improved pasture	18.7	9.5	10.9	—
Other improved land	22.9	8.8	6.1	3.54
Total improved acres	482.4	127.5	84.2	17.14
Unimproved acres	28.2	254.1	95.3	2.00
Total acres operated	510.6	381.6	179.5	19.14

acre in 1965 includes an almost equal quantity of packed and processed apples, together with an estimated 27 per cent of the total crop sold privately (*5*).

McIntosh and Red Delicious together accounted for 90 per cent of the total shipments of apples. Some frost damage was suffered by the Red Delicious apples but the McIntosh trees bore a normal yield of good quality fruit.

Fertilizer and Lime

Grain farmers applied fertilizer with an N.P.K. ratio of 12-27-20 to 446 acres per farm, 92.5 per cent of the improved land, at a rate of 107 pounds an acre.

Gypsum, borated and plain, was applied extensively in the Camp Lister area at a rate of 200 pounds an acre. Some farmers in the district used limited quantities of 21-0-0, 11-48-0 and 16-20-0 at rates ranging from 80 to 100 pounds an acre.

Orchardists generally used a nitrate fertilizer (33-0-0 or 20-0-0), the rate of application varying from about 160 to 200 pounds an orchard acre.

Irrigation

At present, irrigation is confined largely to the orchard and small fruit areas. Several irrigation districts with limited supplies of water and irrigation facilities are meeting the needs of the orchardists adequately. Orchardists irrigated for an average period of 59 days, expressed on the basis of 12-hour irrigation days. This allows for an average of 2.7 applications on 13.4 acres of orchard.

Beef Cattle Production

Beef cow herds on the grain and hay-beef operations varied from 30 to 80 cows and from 16 to 65 cows, respectively. With the exception of two part-time farms having one to three cows, the range in that group was from 12 to 27 breeding cows.

The three main market outlets for Creston feeder cattle are Vancouver, Alberta and the United States.

The main factor limiting an increase in beef cattle numbers in the area is the lack of summer range. Expanded irrigation could perhaps alleviate this problem to some extent by increasing the yields on summer pastures. Also, some potential may exist for feedlot finishing because the district has the following comparative advantages over most other areas of British Columbia:

(1) An abundance of locally produced grain and a surplus of good quality hay;

(2) The weather is relatively moderate; sub-zero weather in the winter is rare and of short duration;

(3) Feeder cattle are obtainable from local ranches—particularly from the East Kootenay area, although competition for these cattle may be keen; and

(4) A choice of markets exists; for example, Vancouver, Alberta, the U.S.A. and the local demand for finished beef.

Fluid Milk Production

The 12 fluid milk shippers in the survey had an average of 40 cows yielding 9,638 pounds of salable milk per cow. The average blend price received was $4.85 per hundredweight. Since there are no plants in Creston, the product must be delivered to Nelson (70 miles) and Cranbrook (65 miles) for processing.

Labor

The supply of labor in terms of man-equivalents and the distribution of productive-man-work units (P.M.W.U.) is shown in Table 5.

Total P.M.W.U.'s are frequently employed as a measure of farm size for varying types of farms (*4*). To the extent that the standards used were applicable

TABLE 5—MAN-EQUIVALENTS AND PRODUCTIVE-MAN-WORK UNITS, 39 COMMERCIAL FARMS, CRESTON VALLEY, 1964-65

	Farm Type			
	Grain	Hay-Beef	Dairy	Orchard
Year	1964	1964	1964	1965
Number of farms	8	8	12	11
	man-equivalents per farm			
Source of labor				
Hired labor	0.56	0.16	0.38	0.17
Family labor	0.21	0.30	0.53	0.32
Operator's labor	0.95	0.89	0.91	0.86
Total labor	1.72	1.35	1.82	1.35
Size of farm (P.M.W.U.'s)	productive-man-work units per farm			
Livestock	152	237	474	—
Crops	410	257	176	345
Total	562	494	650	345
	P.M.W.U.'s per man-equivalent			
Labor efficiency	327	366	357	255

TABLE 6—SELECTED ITEMS FOR COMPARING FULL-TIME FARMS WITH PART-TIME OPERATIONS, CRESTON VALLEY, 1964-65

	Hay-Beef (1964)		Orchards (1965)	
	Full-Time	Part-Time	Full-Time	Part-Time
Number of farms	8	8	11	13
	dollars per farm			
Capital investment per farm	69,229	46,324	36,654	25,772
Current receipts per farm	8,797	3,613	4,477	3,127
Current expenses per farm	6,551	2,795	2,013	1,658
Family farm income	3,533	1,288	1,690	894
Operator's labor income	−534	−1,191	−798	−998
Operator's labor earnings	391	−209	−137	−285
Non-farm income	1,424	2,229	1,110	2,981
	acres per farm			
Total acres operated	382	186	19	9.8
Improved acres operated	128	74	17	9.6
	man-equivalents			
Total labor	1.35	0.69	1.35	1.04
	productive-man-work units			
Crop P.M.W.U.'s	257	133	345	188
Livestock P.M.W.U.'s	237	67	—	5

to the various kinds of production in the area, the averages indicate that dairy farms were the largest and orchards the smallest farms of the four types.

Labor efficiency has been measured by calculating P.M.W.U.'s per man-equivalent. Output per worker was highest on hay-beef and dairy farms. Grain farm operators were only slightly less efficient despite the seasonal nature of the enterprise. Orchardists were the least efficient on this basis. However, in terms of P.M.W.U.'s per $100 of capital investment, orchard farms were more efficient than grain or hay-beef farms.

Part-time Farms

The selected items given in Table 6 provide a basis for a comparison of full-time hay-beef farms and orchardists with their respective part-time operations. Total family net income from farm and non-farm sources was highest on the full-time hay-beef farms, averaging almost $5,000 and lowest on the full-time orchard farms. The part-time orchard farms had the second highest total income of the four groups—an average of $3,875.

The trend toward part-time farming, particularly in the orchard area, has increased in recent years. This has developed partly because of the demand for home sites and a consequent expansion of requirements for urban land in Creston village. A high demand for labor in industry has occurred because of increased logging and lumber production activities, the establishment of a brewery and many small business operations. This has had the effect of increasing wages for labor in industry and many orchardists have found it advantageous to sub-divide and sell part of their acreages, thereby making themselves available for non-farm employment. A number of these farm operators now reside in the Canyon and Camp Lister districts. Most of them keep no livestock, but produce hay which can be harvested with a minimum of hired labor and is readily marketed.

NOTES AND REFERENCES

(*1*) *Regional Index of British Columbia*, Bureau of Economics and Statistics, Department of Industrial Development, Trade and Commerce, Victoria, B.C., January 1966, pp. 57-61.

(*2*) Estimate derived by dividing $600,000 by the 1964 average price ($48.50 a ton) received by the eight grain farm operators.

(*3*) The number of licensed fluid milk shippers in the Creston area was 17.

(*4*) A productive-man-work unit is the amount of productive work accomplished by one man in a ten-hour day working at the average rate for the region with the normal machinery complement. The number of P.M.W.U.'s on a farm is calculated by multiplying the acres of each crop and the numbers of each kind of animal by the P.M.W.U. standards an acre and per animal.

(*5*) The estimate of private sales of apples for 1963 was 27 per cent of total production. See *"Production of Tree Fruit Crops together with an estimate of Farm Values*—1963", Horticultural Branch, Dept. of Agriculture, Victoria, B.C. Total production of apples per farm in 1965 includes: (a) Packed—64,887 pounds; (b) Processed—65,240 pounds; and (c) Estimated private sales—48,129 pounds. Average apple orchard acres per farm was 9.2 acres. Estimated production of apples per orchard acre: 178,256 pounds ÷ 9.2 = 19,376 pounds an acre.

CHANGES IN FARM SIZE AND NUMBERS IN CANADA TO 1966

M. Wilman

The purpose of this article is to describe and analyze the changes in size and number of all census farms and commercial farms. The changes from the 1961 census to the 1966 census will be dealt with in detail so that the areas where the greatest changes have occurred can be pinpointed. A census farm is defined by the Dominion Bureau of Statistics (DBS) as an agricultural holding of one acre or more with sales of agricultural products during the 12 month period preceding the date of the census of $50 or more. A commercial farm is an agricultural holding of one acre or more with sales of agricultural products during the 12 month period preceding the date of the census of $2,500 or more. This definition of a commercial farm came into effect with the 1966 census.

The DBS has stated that many of the census farms are small holdings which have been and are rural residences, holdings of semi-retired people and of part-time operators who are principally engaged in some occupation other than farming (*1*). Thus, a substantial proportion of these small holdings would not be regarded as "farms" in the sense that they provide the major part of the operator's income. We may conclude, however, that these data are still useful indicators of the relative changes which are taking place in the farming industry generally, particularly in terms of agricultural land use, number of holdings and average farm size.

The national, provincial and regional changes from 1961 to 1966 are described in detail in the following sections. Tables 1 and 2 provide the basic data around which the description centers. Table 3 shows the relative change in numbers of census farms by size group.

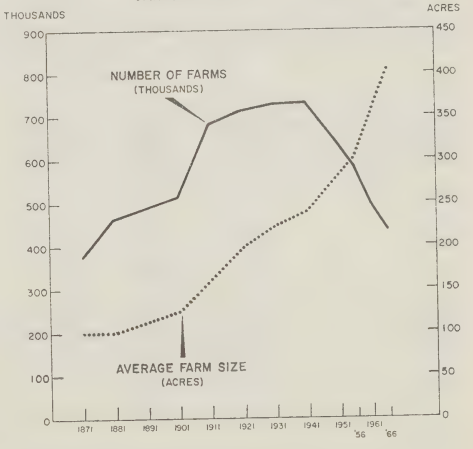
CANADA

The total area of census farmland in Canada increased 35.2 per cent from 1871 to 1931 (*3*). For the next 20 years expansion continued at a slower rate, resulting in a 7 per cent increase by 1951. From 1951 to 1961 there was a drop of less than one per cent in farm acreage, but this was followed by a gain of almost one per cent in the period from 1961 to 1966, leaving the total area of farmland in Canada at 174 million acres. The acreage in commercial farms has also been increasing. From 1961 to 1966, there was an increase of 12.5 per cent so that in 1966, commercial farm acreage made up 82 per cent of total Canadian farmland compared with 73 per cent in 1961.

During the 95 years from 1871 to 1966, the number of farms in Canada increased by 17 per cent. From 1871 to 1941 the number of farms rose steadily, reaching 732,800 in 1941. Since then there has been a decrease of 41 per cent to a total of 430,500 farms in 1966. Commercial farms numbered 276,800 in 1966, comprising 64 per cent of all farms in Canada. This proportion has been increasing. In 1961, the number of commercial farms was 259,000. Part of the 7 per cent increase in numbers from 1961 to 1966 would be due to the 12 per cent increase in farm product prices over this period. In 1966, a farm could qualify as "commercial" under the definition with a smaller volume of production than in 1961.

The average size of census farms has increased from 98 acres in 1871 to 404 acres in 1966. This figure reflects the influence of the large farms in the Prairies, averaging 650 acres, whereas the average size of census farms for the rest of Canada (excluding the Yukon and Northwest Territories) was 168 acres. The changes are portrayed graphically for Canada in Figure 1.

Commercial farm size has been increasing in Canada. The average size of commercial farms in 1966 was 512 acres, a rise of 5 per cent from 1961. Had farm product prices remained the same in 1966 as in 1961, the increase in average size of commercial



Sources: Dominion Bureau of Statistics, 1966 Census of Canada, Catalogue No. 96-631.

M.C. Urquhart and K. A. H. Buckley, Historical Statistics of Canada, Cambridge University Press, Toronto, 1965, p. 351.

FIGURE 1

TABLE 1—NUMBER OF CENSUS FARMS, ACRES IN FARMS AND AVERAGE SIZE OF FARM, CANADA AND PROVINCES, 1961 AND 1966

Province and Region	Number of Census Farms		Percentage Change in Number of Census Farms	Area in Census Farms		Percentage Change in Census Farm Area	Average Size of Census Farms		Percentage Change in Average Census Farm Size
	1961	1966		1961	1966		1961	1966	
			per cent	'000 acres		per cent	acres		per cent
Newfoundland	1,752	1,709	− 2.4	55	49	− 9.2	31	29	− 6.4
Prince Edward Island	7,335	6,357	−13.3	960	937	− 3.5	131	146	+11.4
Nova Scotia	12,518	9,621	−23.1	2,230	1,852	−17.0	178	192	+ 7.9
New Brunswick	11,786	8,706	−25.9	2,200	1,812	−17.6	187	208	+11.2
Maritimes	31,639	24,684	−22.0	5,390	4,591	−14.8	165	182	+10.3
Quebec	95,777	80,294	−16.2	14,198	12,886	− 9.2	148	160	+ 8.1
Ontario	121,333	109,887	− 9.4	18,578	17,826	− 4.0	153	162	+ 5.9
Central	217,110	190,181	−12.4	32,776	30,712	− 6.4	150	161	+ 7.3
Manitoba	43,306	39,747	− 8.2	18,170	19,084	+ 5.0	420	480	+14.3
Saskatchewan	93,924	85,686	− 8.8	64,415	65,410	+ 1.5	686	763	+11.2
Alberta	73,212	69,411	− 5.2	47,229	48,983	+ 3.7	645	706	+ 9.5
Prairies	210,442	194,844	− 7.4	129,814	133,477	+ 2.8	584	650	+11.3
British Columbia	19,934	19,085	− 4.3	4,507	5,292	+17.4	226	277	+22.6
Yukon and Northwest Territories	26	19	−26.9	9	4	−50.3	330	225	−31.8
Canada	480,903	430,522	−10.5	172,551	174,125	+ 0.9	359	404	+12.5

Source: Dominion Bureau of Statistics, *Census of Canada, 1966, Agriculture*, Cat. No. 96-631.

TABLE 2—NUMBER OF COMMERCIAL FARMS, ACRES IN FARMS AND AVERAGE SIZE OF FARM, CANADA AND PROVINCES, 1961 AND 1966

Province and Region	Number of Commercial Farms		Percentage Change in Number of Commercial Farms	Area in Commercial Farms		Percentage Change in Commercial Farm Area	Average Size of Commercial Farms		Percentage Change in Average Commercial Farm Size
	1961	1966		1961	1966		1961	1966	
			per cent	'000 acres		per cent	acres		per cent
Newfoundland	281	301	+7.1	18	21	+18.7	64	71	+10.9
Prince Edward Island	2,886	3,328	+15.3	481	608	+26.4	167	183	+ 9.6
Nova Scotia	3,016	2,867	− 4.9	799	818	+ 2.4	265	286	+ 7.9
New Brunswick	3,073	2,938	− 4.4	861	898	+ 4.3	280	306	+ 9.3
Maritimes	8,975	9,133	+17.6	2,141	2,314	+ 8.1	239	253	+ 5.9
Quebec	38,927	41,961	+ 7.8	6,778	7,713	+13.8	174	184	+ 5.7
Ontario	69,667	70,724	+ 1.5	12,318	13,230	+ 7.4	177	187	+ 5.6
Central	108,594	112,685	+ 3.8	19,096	20,943	+ 9.7	176	186	+ 5.7
Manitoba	24,286	27,372	+12.7	13,008	15,808	+21.5	536	578	+ 7.8
Saskatchewan	63,546	69,962	+10.1	51.414	57,699	+12.2	809	825	+ 2.0
Alberta	45,203	48,971	+ 8.3	37,241	40,987	+10.0	824	837	+ 1.6
Prairies	133,035	146,305	+10.0	101,663	114,494	+12.6	764	783	+ 2.5
British Columbia	8,150	8,407	+ 3.2	3,175	4,061	+27.9	390	483	+23.8
Northwest and Yukon Territories	2	4	+100.0	1.1	1.2	+ 9.2	571	312	−45.4
Canada	259,037	276,835	+ 6.9	126,094	141,844	+12.5	487	512	+ 5.1

Source: Dominion Bureau of Statistics, *Census of Canada, 1966, Agriculture*, Cat. No. 96-631.

TABLE 3—CHANGES IN THE NUMBERS OF CENSUS FARMS BY SIZE OF HOLDINGS, CANADA AND PROVINCES, 1961 TO 1966

Size of Census Farm	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
						percentage change					
Under 3 acres	+61.3	−21.6	− 8.9	−36.0	−16.5	+ 3.2	+ 9.1	+53.9	+35.7	−11.9	+ 1.6
3– 9 "	− 7.8	+ 5.5	−27.1	−30.3	− 9.9	− 8.0	+ 7.4	+20.2	+16.0	− 2.8	− 4.9
10– 69 "	−12.8	−26.7	−32.8	−30.0	−19.8	− 6.5	+ 0.1	+ 4.7	+26.7	− 8.7	−11.2
70– 239 "	−21.7	−15.1	−25.2	−31.2	−20.4	−14.6	−22.2	−18.4	−17.9	− 9.1	−18.3
240– 399 "	−36.8	+ 1.2	−13.2	−14.9	+ 7.4	+ 3.1	−19.2	−22.6	−15.0	− 6.4	−11.4
400– 559 "	+25.0	+59.3	− 6.3	− 5.8	+21.4	+10.3	− 7.1	−17.6	− 6.8	+ 1.5	− 8.2
560– 759 "	0.0	+82.3	−11.2	− 9.8	+11.5	+19.9	+ 4.1	− 7.6	+ 2.8	+15.6	− 1.3
760–1,119 "	+100.0	+66.7	+19.6	+22.2	+38.5	+32.4	+21.2	+ 2.6	+ 9.6	+19.6	+ 7.9
1,120–1,599 "	—	0.0	−29.2	− 3.1	+ 4.5	+11.8	+37.1	+13.4	+12.5	+52.6	+15.7
1,600 and over	+100.0	+33.3	−25.0	+33.3	− 4.3	+35.0	+66.8	+27.2	+13.2	+49.8	+24.0

Sources: Dominion Bureau of Statistics, *Census of Canada, 1966, Agriculture*, Cat. No. 96-623.
Dominion Bureau of Statistics, *Census of Canada, 1961, Agriculture*, Cat. No. 96-530.
—indicates no farms.
0.0 indicates no change.

farms would have been somewhat greater, all other factors remaining unchanged.

There are two distinct regional trends in the size and numbers of farms in Canada. The Central and Maritime regions had less census farmland in 1966 than in 1961, whereas the Prairie Provinces and British Columbia showed an increase in the number of acres used for farming. The amount of land used for commercial farms increased in all of Canada. All regions had fewer and larger census farms and, with the exception of Nova Scotia and New Brunswick, also had more commercial farms.

The reduction in the numbers of census farms from 1961 to 1966 was largely those farms with sales of less than $2,500 a year. These census farms are not, however, necessarily those with the smallest acreages. The smallest census farms (less than three acres) showed no uniform trend for all provinces. In the Maritime provinces, British Columbia and Quebec the number of farms of less than three acres decreased by nine to 36 per cent. Ontario and the Prairie Provinces had an increase in the numbers of these small size farms. The average change for Canada was an increase in numbers of 1.6 per cent.

Farms ranging from three to 69 acres in size decreased in all provinces except the Prairies where increases for this size of farm ranged from 4 to 21 per cent. The Canada average for this category was a 5 per cent decrease in numbers.

There was a large decrease from 1961 to 1966 (18 per cent) in numbers of farms ranging from 70 to 239 acres in size for Canada as a whole. All provinces conformed to this trend.

The number of larger size farms (240 acres to 559 acres) increased in Quebec, Ontario and Prince Edward Island between 1961 and 1966. This size of farm decreased in all other provinces.

Farms over 560 acres in size showed large increases in numbers of between 8 and 80 per cent in seven provinces. Nova Scotia farms in this category decreased 6 per cent in numbers while New Brunswick and Saskatchewan had small increases of 2 and 3 per cent, respectively. In all of Canada, farms over 560 acres in size increased 7.5 per cent in numbers from 1961 to 1966. Farms in the largest size grouping (1,600 acres and over) showed an increase in numbers of almost 25 per cent.

THE MARITIMES

The overall changes in census farms for the Maritime Provinces from 1961 to 1966 were a decrease of 15 per cent in total area, a decline of 22 per cent in numbers and an increase of 10 per cent in average farm size. The greatest relative changes in census farms were in New Brunswick and the least in Prince Edward Island.

Commercial farms in the region rose by 8 per cent in total area, 18 per cent in numbers and 6 per cent in average size. The greatest relative changes were in Prince Edward Island and the least in Nova Scotia.

Prince Edward Island

From 1961 to 1966, total census farm acreage in Prince Edward Island fell by 3.5 per cent: 7 per cent in Kings county; 3 per cent in Prince; and 1.5 per cent in Queens. The acreage in commercial farms increased by one-quarter during the same years.

The 13 per cent decrease in the number of census farms since 1961 was evenly distributed throughout all three counties in the province. However, the number of commercial farms increased by 15 per cent

with the largest increase (23 per cent) in Kings county at the eastern end of the province.

The average size of census farms in the province increased approximately 11 per cent, from 131 acres in 1961 to 146 acres in 1966. The increases were consistent in all three counties. The average size of commercial farms in 1966 was 183 acres, a 10 per cent increase from 1961. The largest percentage increase in the average size of commercial farms was in Prince county in the western end of the province where more than half of the census farms are classified as commercial farms.

Nova Scotia

Nova Scotia's census farm area decreased 17 per cent from 1961 to 1966. The only increase was in Kings county, which added 2 per cent to its farm acreage. This is a mixed farming region with emphasis on livestock production. The total commercial farm acreage also increased by 2 per cent, with half the counties having increases and half the counties having decreases. Shelburne county, a region with only three commercial farms in 1966, showed a decrease in commercial farm acreage of 68 per cent between 1961 and 1966.

There were 23 per cent fewer census farms in Nova Scotia in 1966 than in 1961 and 5 per cent fewer commercial farms. Large reductions in the numbers of census farms occurred in the counties of Digby, Guysborough and Richmond, three coastal areas where agriculture is not important. Fewer commercial farms were reported in all counties except Cumberland, also a coastal area with little agriculture, and in Digby county. Annapolis county, Nova Scotia's best farming area, recorded drops of 6 per cent in the number of census farms and of 3 per cent in the number of commercial farms.

The average size of census farms in Nova Scotia increased by 8 per cent to 192 acres between 1961 and 1966. The largest gains were in the counties of Antigonish and Digby while Shelburne county farms decreased in average size by 38 per cent. Antigonish is mainly a dairy farming district but Digby county is not primarily an agricultural area. There are few farms in the coastal county of Shelburne. The commercial farms in Nova Scotia increased 8 per cent in average size between 1961 and 1966. Colchester and Guysborough counties were the only areas which had decreases in the average size of commercial farms.

New Brunswick

New Brunswick conformed to the regional trend for the Maritimes, having fewer farms, less total farm acreage and larger farms. In 1966, there was 18 per cent less total agricultural acreage than in 1961, but the area in commercial farms increased by 4 per cent over the same period. The decrease in total acreage was spread evenly throughout New Brunswick with the exception of St. John county. This county added over a thousand acres to its farmland, an increase of 6 per cent in total agricultural acreage. The acreage in commercial farms decreased in five counties: Albert, Kings, York, Charlotte and Northumberland, the latter two counties being non-agricultural areas and the former three counties being intensive farming areas where livestock are produced. Gloucester, Kent and Restigouche counties had the largest increases, 28 to 34 per cent, in commercial farm acreage. Between 1961 and 1966, all counties in New Brunswick had reductions in the number of census farms resulting in a 26 per cent decrease for the province as a whole. During this same period, the number of commercial farms, which made up 34 per cent of all New Brunswick farms in 1966, decreased by 4 per cent.

Northumberland county reported the largest decrease in the number of census farms. This county is not mainly agricultural. Gloucester, Kent and Restigouche counties were the only areas to show significant increases in the numbers of commercial farms. From 1961 to 1966, these increases were 26 per cent for Gloucester county, 28 per cent for Kent county and 13 per cent for Restigouche county. Livestock production and dairying are the main types of farming in these counties.

Average farm size increased for both census and commercial farms. The 11 per cent increase in the average size of all census farms in the province reflects the large increase in the size of St. John county farms. This county has mainly mixed farms which emphasize livestock production but farmland accounts for only about one third of the total area. The only decrease in the average size of census farms took place in Charlotte county (5 per cent). There are only a small number of farms (187) in this county and it is not primarily an agricultural region. The average size of all commercial farms increased 9 per cent in New Brunswick. The only counties reporting smaller commercial farms in 1966 than in 1961 were Albert and Northumberland.

CENTRAL CANADA

The central region of Canada (Quebec and Ontario) contained 44 per cent of all census farms and 41 per cent of all commercial farms in Canada in 1966. Eighteen per cent of the total Canadian farm acreage was in this region. From 1961 to 1966,

there was a decline of 12 per cent in the number of all census farms and 6 per cent in the farm acreage in these two provinces combined. In contrast, there was a 4 per cent increase in the number of commercial farms and a 10 per cent rise in the area in these farms. During the same period, the average size of all census farms in Quebec and Ontario advanced by 7 per cent to 161 acres and the average size of commercial farms increased by 6 per cent to 186 acres. These were somewhat lesser rates of change than those which occurred in the Maritimes.

Quebec

The total farm area fell by 9 per cent from 1961 to 1966. In the northern county of Témiscamingue, farm acreage increased by one per cent but all other counties showed reductions in the land used for agriculture. The acreage in commercial farms in the province increased by 14 per cent but approximately one-third of the counties showed decreases in the commercial farm acreage.

The number of census farms in Quebec declined by 16 per cent from 1961 to 1966. The only exception was in Iles-de-la-Madeleine where the number rose by 34 to a total of 256 farms in 1966. There was an overall 8 per cent increase in the number of commercial farms in the province.

Although the overall change in average size of census farms for the province was an increase of 8 per cent, many counties did not follow this trend. The counties of East Charlevois, Iles-de-la-Madeleine, Joliette, Lévis, Maskinongé, St. Maurice and Terrebonne had smaller farms in 1966 than in 1961. Industries other than agriculture predominate in these areas. The largest increases in average farm size were in the Gaspé peninsula, in dairying areas near urban centers and in the northern counties of Abitibi, Témiscamingue and Saguenay.

The average size of commercial farms also increased during this five-year period. Generally, most counties showed a rise of about 6 per cent. The largest percentage increases occurred in the counties of Quebec, Verchères and Saguenay.

Ontario

From 1961 to 1966 the total area farmed in Ontario fell by 4 per cent to approximately 18 million acres, of which 13 million acres were in commercial holdings. The area in commercial farms increased by 7 per cent during the same period. Six counties: Brant, Durham, Elgin, Prince Edward, Rainy River and Stormont enlarged their farming area in census farms but only by small amounts of up to 2 per cent. The changes in Muskoka and Haliburton counties offset these increases with large decreases of 21 per cent and 28 per cent, respectively. The area in commercial farms increased in all but seven counties: Haliburton, Halton, Kenora, Muskoka, Sudbury, Thunder Bay and Wentworth.

All counties in Ontario showed a reduction in the number of census farms since 1961. The overall decrease for the province was 9 per cent. However, there was an increase of 1.5 per cent in the number of commercial farms from 1961 to 1966. These farms comprised approximately two-thirds of all the census farms in Ontario.

Census farm size was, on the average, 6 per cent higher in Ontario in 1966. Only Halton and Muskoka counties had reductions in average farm size. Halton is becoming an urbanized area and Muskoka is a recreational region; neither of these two counties is predominantly agricultural. Commercial farms in Ontario also increased 6 per cent in average size. Victoria, Welland, Lincoln and Muskoka counties had decreases in the average size of commercial farms of from less than one per cent to 7 per cent.

THE PRAIRIES

The changes in farm size, area and numbers in the Prairie Provinces from 1961 to 1966 formed a different pattern from that of Eastern Canada. The acreage used for farming increased almost 3 per cent in the five-year period under review. This growth in farmland was mainly the result of increases in the northern areas of the Prairie Provinces.

The numbers of census farms decreased 7 per cent to 195,000 farms. This was only about 4,000 farms more than the number in the Central Region in 1966 but the Prairie farm holdings were 4.0 times as large after having grown 11 per cent in average size since 1961. In 1961, Prairie farms were 3.8 times the average size of census farms in the Central Region. Since farms in the Prairie region are generally less intensive than farms in Central Canada, the greater relative growth in average size (measured in total acres) would not necessarily reflect greater relative growth in size of farm business measured in some other way.

The commercial farms in the Prairies in 1966 comprised 53 per cent of all commercial farms in Canada and 75 per cent of all census farms in the Prairies. Eighty-one per cent of the commercial farm acreage in Canada was in the Prairie Provinces in 1966 and this acreage made up 86 per cent of the total Prairie farm area. There were increases of 10 per cent in the numbers; 2.5 per cent in the average size; and 13 per cent in the acreage of Prairie commercial farms from 1961 to 1966.

Manitoba

This province had a 5 per cent growth in total farm acreage. The greatest percentage increase was in Census Division 16 which comprises the northern part of Manitoba. Although this district added 87 per cent to its agricultural acreage, the total area in 1966 was still only 126,000 acres. Census Divisions 3, 5, 19 and 20 showed decreases in farm acreage. These are all farming areas, except Census Division 20, which consists mainly of the City of Winnipeg.

Commercial farm area in Manitoba in 1966 was up 21 per cent from 1961. All census divisions had increases but the largest gains were in the northern divisions.

The number of all census farms in Manitoba decreased 8 per cent from 1961 to 1966. Division 16 in the northern part of the province added 64 more farms in the five-year period and was the only area to have an increase in the number of census farms. The number of commercial farms in the province increased 13 per cent over the same period. Only Census Division 20, which is mainly an urban district, had a decrease in commercial farm numbers and this was less than one per cent.

Between 1961 and 1966, the average size of census farms in Manitoba rose 14 per cent to an average of 480 acres for the province. All census divisions showed increases in average farm size. The largest gains in average census farm size were in three northern divisions: 12, 16 and 18.

Commercial farms were 8 per cent larger on the average in 1966 than in 1961. All census divisions showed an increase in average commercial farm size with the exception of Census Division 5 in the eastern part of the province at the south end of Lake Winnipeg. The decrease amounted to about 2 per cent.

Saskatchewan

In this province, farm acreage increased by almost one million acres from 1961 to 1966. Even so, this was a gain of only 1.5 per cent. Census Division 7, a wheat farming area in the south central part of Saskatchewan, experienced a small decrease (0.2 per cent) in the area in census farms, but all other divisions enlarged their farm acreage. Over the same time period, commercial farm acreage increased in all divisions resulting in an average increase of 12 per cent for the province.

The number of census farms in Saskatchewan decreased by 9 per cent between 1961 and 1966. However, by contrast, the northern district (Census Division 18) had 6 per cent more farms in 1966. Increases in the number of commercial farms occurred in 15 of the 18 census divisions. There were small decreases in Census Divisions 4, 7 and 11, three predominantly agricultural areas. The overall increase in the number of commercial farms in Saskatchewan from 1961 to 1966 was 10 per cent.

There was a province-wide increase of 11 per cent in the average size of census farms, with Census Divisions 3 and 4, in the south central wheat growing areas of the province, showing increases of almost 20 per cent. Census farms in other districts of Saskatchewan grew in average size by 8 to 14 per cent, with the exception of the most northern division (18) where average farm size increased only very slightly (0.04 per cent). The average size of commercial farms in Saskatchewan in 1966 was 825 acres; 62 acres more than the average size of all census farms in the province and a 2 per cent increase over the 1961 average size of commercial farms. Commercial farms increased in size in the majority of census divisions. The exceptions were Census Divisions 1, 2, 9 and 18. There was no change in average commercial farm size in Census Division 5.

Alberta

The changes in farm size and numbers in Alberta from 1961 to 1966 followed the pattern of the other two Prairie Provinces. There was 4 per cent more census farm area and 10 per cent more commercial farm area; 5 per cent fewer census farms and 8 per cent more commercial farms; the census farms were 10 per cent larger in average size and commercial farms increased 2 per cent in average size.

In Alberta, three of the 15 census divisions (1, 3 and 9) had less area in census farms in 1966 than in 1961. These areas, however, have little in common agriculturally. Census Division 9 is primarily a non-agricultural area on the southwestern border of the province while Divisions 1 and 3 are both farming districts, the former specializing in wheat, the latter in livestock production. Divisions 1 and 3 also had less area in commercial farms. All other census divisions in Alberta showed increases in the area used for commercial farms.

The decrease of 5 per cent in the number of census farms from 1961 to 1966 was general throughout the province, except for Census Divisions 9 and 14, two areas on the western border of Alberta where farming is not engaged in extensively. As in the other two provinces, there was an increase of 8 per cent in the number of commercial farms in Alberta.

The average size of all census farms dropped in Census Divisions 1 and 9. These small reductions were more than offset by gains in the average size

of census farms of from 5 to 18 per cent in other parts of the province. In Census Division 12, in northern Alberta, the average size of census farms increased by 23 per cent. The average size of commercial farms in Census Divisions 1, 3 and 9 was less in 1966 than in 1961 by 6 per cent, 0.3 per cent and 21 per cent, respectively. Over the same time period, all other census divisions in Alberta had increases in the average size of commercial farms so that the province as a whole recorded a 2 per cent increase in average commercial farm size.

BRITISH COLUMBIA

The greatest percentage increase in Canada's census farm acreage from 1961 to 1966 by province occurred in British Columbia. The increase amounted to 17 per cent and was concentrated in five census divisions. The other five divisions of the province had reductions in the acreage in census farms. In four of these latter divisions, 2, 3, 4 and 5, which comprise the southern portion of British Columbia, there was a reduction of more than 50,000 acres in the amount of census farmland. Census Division 9, a northwest area, also had fewer acres used for farming in 1966 than in 1961. The other northern Census Divisions, 7, 8 and 10, extended their total agricultural acreage as did Census Divisions 1 and 6.

Commercial farm acreage in British Columbia increased almost 28 per cent between 1961 and 1966 so that 77 per cent of the total census farm area in British Columbia was in commercial farms. The largest increase was in Census Division 9 in the northern coastal part where commercial farm acreage increased 88 per cent. The only decreases in this period in commercial farm acreage occurred in Census Divisions 2, 4 and 5.

The total number of census farms in British Columbia fell from 19,934 in 1961 to 19,085 in 1966, or by 4 per cent. The northern Census Divisions 8, 9 and 10 deviated from the provincial trend, having more farms in 1966 than in 1961.

In 1966, 44 per cent of British Columbia's census farms were classified as commercial holdings, an increase in proportion of 3 per cent from 1961. There were also 3 per cent more commercial farms in the province in 1966 than in 1961, but Census Divisions 2, 3, 4 and 5 all showed decreases in the number of commercial farms.

As a whole, census farms in British Columbia were 23 per cent larger in size in 1966 than in 1961. In Census Divisions 5 and 9, the average size of farms dropped but all other areas in the province had larger average size of census farms in 1966. The biggest increases (30 to 37 per cent) were in the northern divisions of 7, 8 and 10. Commercial farm size rose 24 per cent on the average for the province. Census Division 6 had a 5 per cent decrease in the average size of commercial farms. There was no change in the average size of the commercial farms in Census Divisions 4 and 10, while the remainder of the census divisions reported increases.

NEWFOUNDLAND, YUKON AND NORTHWEST TERRITORIES

Newfoundland and the two northern territories of Canada have very little agriculture. There were 1,709 census farms in Newfoundland in 1966, a decrease of 2 per cent from 1961. There was an increase of 7 per cent in the number of commercial farms in the province, from 281 to 301 farms.

In the Northwest and Yukon Territories, the number of census farms fell from 26 in 1961 to 19 in 1966. Of these 19 farms, four were classified as commercial holdings.

The area farmed and the average census farm size dropped in both of the territories and in Newfoundland. However, these changes do not have a significant effect on Canadian agriculture as a whole.

SUMMARY

The total acreage of Canadian farmland reached its highest point to date in 1966 and a greater proportion of it was classified as commercial holdings. The largest percentage increase in census farm area was in British Columbia which added 17 per cent more farm area between 1961 and 1966. The Prairie Provinces had a gain of 2.8 per cent in census farm area over the same period. However, all the other provinces recorded reductions in census farm area.

British Columbia also reported the largest percentage increase in commercial farm acreage. From 1961 to 1966, all other provinces also showed increases in commercial farm acreage.

The number of census farms continued the decline which commenced in 1941 but the number of commercial farms increased. Part of this increase was due to the 12.3 per cent increase in the value of farm products from 1961 to 1966. The drop in the number of census farms from 1961 to 1966 totaled over 50,000 or about 10,000 holdings per year. Should this rate of decrease continue, as seems likely, the number of census farms may decline to 380,000 by 1971.

The 22 per cent decline in farm numbers in the Maritimes was the largest provincial decrease, followed by a 12 per cent drop in the number of census farms in the Central Region, a 7 per cent drop in the Prairies, and a 4 per cent drop in British Columbia.

Commercial farms increased in numbers in all provinces except New Brunswick and Nova Scotia, with the largest significant increase being in Prince Edward Island.

Average census farm size for all Canada rose by over 12 per cent and average commercial farm size by over 5 per cent between 1961 and 1966.

British Columbia recorded a 23 per cent increase in average census farm size and a 24 per cent increase in average commercial farm size. These were the largest increases.

The Prairies reported only a 2.5 per cent increase in average commercial farm size from 1961 to 1966 although there was an 11 per cent increase in average census farm size for the region over the same time period.

Ontario and the Maritimes showed a 6 per cent increase in average commercial farm size but there were larger percentage increases (7 per cent and 10 per cent, respectively) in average census farm size.

NOTES AND REFERENCES

(*1*) Dominion Bureau of Statistics, *Census of Canada, 1966, Agriculture,* Cat. No. 96-631.

(*2*) Dominion Bureau of Statistics, *Census of Canada, 1966, Agriculture,* Cat. No. 96-623.

(*3*) M. C. Urquhart and K. A. H. Buckley, *Historical Statistics of Canada,* Cambridge University Press, Toronto, 1965, p. 351.

DIRECT FINANCIAL ASSISTANCE TO AGRICULTURE BY THE FEDERAL GOVERNMENT, 1965-66

Each year, the Federal Government spends many millions of dollars to promote the efficiency and profitability of agriculture in Canada. This aid is extended under programs which seek to improve the resources in farming and the quality of farm products, to provide farmers with better incomes and with compensation for loss of income, to undertake research into the physical and economic problems of the industry, and to encourage agricultural development through the availability of farm credit.

It should be noted that the total amount of direct financial assistance recorded for any fiscal year may include payments in respect of crop or income losses experienced by some farmers in a preceding year. Also, in the case of several assistance programs, the amount of aid provided is represented by and equivalent to the net loss during the year in transactions by Federal Government agricultural agencies. However, for a number of products approved under the Agricultural Stabilization Act, market prices in recent years have been above support price levels. Thus, the Agricultural Stabilization Board has not only refrained from purchasing such items but has also been able to dispose of some or all of the stocks previously acquired, in these instances.

Although still substantial in total, direct financial assistance by the Federal Government declined in 1965-66. Larger payments were made under some headings, but a smaller net loss by the Agricultural Stabilization Board and an appreciable excess of receipts over awards under the Prairie Farm Assistance Act more than offset the increased expenditures. Developments under several of the direct assistance programs are now reviewed.

AGRICULTURAL PRODUCTS BOARD

During the 1965-66 fiscal year, the Board purchased and resold 6.8 million pounds of evaporated and condensed milk, 10.4 million pounds of dry whole milk and 2.5 million pounds of dry casein. In addition, 72,000 pounds of Sudan sorghum hybrid seed were purchased, of which 22,100 pounds were sold. The Board also exported its remaining stock of dry skim milk, totaling 53.4 million pounds, during the year, and sold 253,920 pounds of dried whole egg (the balance of its stock) as part of Canada's contribution to the World Food Program.

AGRICULTURAL STABILIZATION BOARD

Dairy Products

The net operating loss of the Agricultural Stabilization Board for 1965-66, at $38.1 million, was $17.8 million less than in the preceding year. This decrease resulted mainly from a $10.6 million fall (to a total of only $843,000) in the net cost to the Board of the support program for butter and a decline of $6.2 million in the amount paid by way of butterfat subsidy on cream used for creamery butter. For the period May 1, 1965 to March 31, 1966, the Board raised its purchase price for butter from 53¢ to 55¢ per pound, and also continued to make fixed payments on milk and cream used for butter manufacture, to assure producers a return equivalent to 64¢ per pound of butter.

For May 1, 1965 to March 31, 1966, the Board's support price for Canada First Grade cheddar cheese was increased to 35¢ per pound. A total of 31.4 million pounds of cheese was exported to Britain and the Caribbean during the year resulting in a complete clearance of the Board's stocks of this product.

Despite the reduction in the net cost of some dairy products, these items continued to constitute the major portion—more than 81 per cent—of Federal Government financial assistance to agriculture through the Board.

Eggs

The price of eggs was again supported at 34¢ per dozen Canada Grade A Large eggs, up to a maximum of 4,000 dozen per producer during the 12 months ended September 30, 1965. As the national average price under the program was calculated to be 29.7¢ per dozen, a deficiency payment of 4.3¢ per dozen was made to producers.

Pork

No deficiency payment was made on pork during 1965-66 as market prices remained above the support level, but a loss continued to be made on sales of pork stocks held by the Board from previous years.

Sugar Beets

The Board was authorized to make payments to sugar beet producers at 1.27¢ per pound of refined sugar for each cent (Canadian funds) that the average London Daily price for raw sugar as published monthly by the International Sugar Council (weighted by monthly domestic sales of beet sugar)

TABLE 1—ASSISTANCE PAID TO AGRICULTURE BY THE FEDERAL GOVERNMENT, CANADA AND PROVINCES, FISCAL YEAR 1965-1966

	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	thousand dollars										
AGRICULTURAL PRODUCTS BOARD											
Net operating loss	1,619	..	..	..	..	..	..	..	..	..	..
AGRICULTURAL STABILIZATION BOARD											
Net operating loss:											
dairy products	31,055	..	..	..	..	..	..	..	..	..	..
eggs	2,000	..	..	..	..	..	..	..	..	..	..
honey	0	..	..	..	..	..	..	..	..	..	..
pork	401	..	..	..	..	..	..	..	..	..	..
sugar beets	4,033	..	..	..	..	..	..	..	..	..	..
wool	599	..	..	..	..	..	..	..	..	..	..
AGRICULTURAL REHABILITATION AND DEVELOPMENT	13,011[a]	348	133	353	239	5,177	135	862	2,030	405	479
ANIMAL CONTAGIOUS DISEASES											
compensation for losses of animals	1,016	1	1	12	2	638	153	48	63	91	7
CHEESE AND CHEESE FACTORY IMPROVEMENT											
quality premiums	1,505	—	10	—	2	545	925	5	—	10	8
factory improvement	207	—	9	—	—	35	162	—	—	—	—
COLD STORAGE											
warehouse construction	50	—	—	50	—	—	—	—	—	—	—
CROP INSURANCE											
payments to participating provinces	631	—	8	—	—	—	—	466	123	34	—
MARITIME MARSHLAND REHABILITATION	359	—	—	(.....359.....)		—	—	—	—	—	—
PRAIRIE FARM ASSISTANCE											
payments to farmers	Cr. 3,469	—	—	—	—	—	—	Cr. 766	Cr. 4,448	(.....1,774....)	
PRAIRIE FARM REHABILITATION ADMINISTRATION AND RELATED PROGRAMS	25,424	—	—	—	—	—	—	(.....25,424.....)			—
PRAIRIE GRAIN ADVANCE PAYMENTS											
interest charges and repayment defaulted	669	—	—	—	—	—	—	(.....669.....)			—
TEMPORARY WHEAT RESERVES											
storage costs	36,809	—	—	—	—	—	—	(.....36,809.....)			—
DESTRUCTIVE INSECTS & PESTS											
payments to farmers	180	—	—	—	—	—	6	—	—	—	174
APPROPRIATION ACTS											
grants to agricultural organizations	283	—	—	—	—	—	—	—	—	—	1
grants to fairs, exhibitions and museums	957	(.....	..	115	.....)	141	375	75	101	102	47
freight assistance on western feed grain	19,826	809	469	1,994	1,130	9,257	4,069	—	—	—	2,100
storage assistance on western feed grain	1,173	..	..	..	..	..	..	..	..	..	..
livestock purchase and distribution	2	..	..	..	..	..	..	..	..	..	..
hog quality premiums	8,239	—	(.....329	.....)		1,813	3,038	757	425	1,583	232
lamb quality premiums	410	—	(.....20	.....)		51	131	67	10	87	44
potato warehouse construction	104	—	—	—	—	104	—	—	—	—	—
emergency movement of fodder and haying equipment, and of livestock to feed	278	—	—	—	—	133	123	18	4	—	—
assistance to livestock producers affected by adverse weather conditions in 1965-66	5,536	—	—	—	109	2,727	2,700	—	—	—	—
assistance to producers for income loss, 1964-65	989	—	—	—	—	989	—	—	—	—	—
assistance to producers affected by adverse weather conditions in 1964	503	—	—	—	—	503	—	—	—	—	—
vine, fruit tree and crop loss	1,000	—	—	—	—	—	—	—	—	—	1,000
agricultural limestone assistance	1,602	9	66	109	100	1,205	42	—	—	—	71
barberry eradication	99	—	—	—	—	9	90	—	—	—	—
contributions and grants to research and professional bodies	388	..	..	..	..	..	..	..	..	..	..
contribution to veterinary college, Saskatoon	80	—	—	—	—	—	—	—	80	—	—
Total Federal Assistance	157,568										

Due to rounding of figures, provincial expenditures do not equal the Canada total in all instances.
.. indicates no provincial breakdown available.
— indicates no expenditure.
0 indicates less than $500.
[a] Includes expenditure on research, for which there is no provincial breakdown available.

fell below $4.32 per 100 pounds of raw sugar. This support sought to stabilize the price of sugar beets yielding 250 pounds of refined sugar per ton at a price of $13.72 per ton, national basis. While no deficiency payment had been made in the previous year, assistance to producers was provided in 1965-66 at the rate of $3.15 per standard ton.

Wool

The Board again supported the price of wool at 60¢ per pound, a deficiency payment of 16.3¢ per pound being made for 1965-66 compared with 12.3¢ per pound on the 1964-65 clip.

AGRICULTURAL REHABILITATION AND DEVELOPMENT

Assistance paid to agriculture under ARDA increased more than 42 per cent in 1965-66. The provinces of Quebec and Saskatchewan were the largest recipients of Federal aid during the year. The current ARDA agreement, effective April 1965 to April 1970, provides for up to $25 million annually to be made available by the Federal Government, with a further $50 million fund to be used for major projects over the five-year period.

CHEESE AND CHEESE FACTORY IMPROVEMENT

Under this Act, an incentive is provided, in the form of premiums, for the production of high quality cheese. Quality premiums paid by the Federal Government in 1965-66 were 26 per cent greater in total than in 1964-65.

Financial assistance continued to be made available in 1965-66 for the improvement of cheese factories.

PRAIRIE FARM ASSISTANCE

A recurring annual deficit for prairie farm assistance was replaced by a substantial credit in 1965-66, due to a $3.6 million reduction in awards paid to farmers during the year under the Prairie Farm Assistance Act and a $300,000 increase in receipts collected by way of the one per cent levy on grain sales for the Prairie Farm Emergency Fund.

DESTRUCTIVE INSECTS AND PESTS

Under the Destructive Insect and Pest Act, the Federal Government seeks to prevent the introduction and spread within Canada of insects and plant diseases destructive to agricultural and forest crops, to maintain the high quality of seed potatoes produced in Canada, and to ensure that Canadian exports of plants and plant products meet the requirements of importing countries.

In the spring of 1965, golden nematode was discovered on Vancouver Island, British Columbia. Approximately 450 acres were found to be infested and an eradication program was instituted.

FREIGHT ASSISTANCE ON WESTERN FEED GRAINS

Assistance is provided by the Federal Government in paying part of the freight charges on grain shipped from the Prairie Provinces to Eastern Canada and British Columbia for exclusive use as livestock and poultry feed. In all provinces receiving feed grain under this program, the amount of assistance paid to farmers by the Federal Government was higher in 1965-66 than in the preceding year.

SPECIAL ASSISTANCE

Adverse weather conditions sometimes necessitate special financial assistance by the Federal Government in the emergency movement of fodder or livestock, or for such other measures, including compensation for income loss, as may be appropriate in the circumstances. In 1965-66, substantial payments were made in this category to producers in Quebec, Ontario, New Brunswick and British Columbia. Some of the assistance paid related, in the case of Quebec, to losses experienced in 1964-65.

BARBERRY ERADICATION

By agreement with the Governments of Ontario and Quebec, the Federal Government has undertaken to pay 50 per cent of the cost of a barberry eradication program in the two provinces. This program, introduced in 1964 and originally scheduled to conclude by early 1967, is now to be continued throughout 1967 and in 1968.

SOURCES

The text and table are based on data compiled from the Canada Gazette Part II; annual reports of the Boards mentioned; Federal Public Accounts, and other departmental sources.

Ontario Bean Producers' Marketing Order—By this order, which has been issued in substitution for Order in Council P.C. 1965-526, the Farm Products Marketing Board of Ontario and the Ontario Bean Producers' Marketing Board are authorized to regulate the marketing of beans in interprovincial and export trade, and for such purposes may, with respect to persons and property situated in Ontario, exercise all or any powers similar to those provided for marketing beans within the Province.

The Ontario Bean Producers' Marketing Board is also authorized to fix, impose and collect levies or charges, at a rate not exceeding 77¢ for each 100 pounds of beans marketed, for the Board's purposes, including the creation of reserves, the payment of expenses or losses resulting from the sale or disposal of beans and for the equalization or adjustment of moneys therefrom among bean producers. (July 12, 1967)

Quebec Industrial Milk Producers' Marketing Order—The Federation des producteurs de lait industriel du Quebec is granted authority to regulate the marketing, in interprovincial and export trade, of industrial milk produced in the Province of Quebec, and for such purposes may, with respect to persons and property situated in Quebec, exercise powers like those possessed for marketing industrial milk within the Province under chapter XI of the Joint Plan, except the powers exercisable under section I of chapter XI. (July 12, 1967)

Egg and Egg Products Purchase and Sale Order, 1967—The Agricultural Products Board is authorized to purchase up to 100,000 cases of shell eggs at prices below 37¢ per dozen and to store, transport, process and enter into contracts for the storing, transporting and processing of eggs and egg products. The Board may also sell egg products at prices not lower than a price which will result in a net return of less than 25¢ per dozen of shell eggs. (July 12, 1967)

British Columbia Turkey Marketing Order—The British Columbia Turkey Marketing Board is authorized to regulate the marketing of British Columbia-produced turkeys in interprovincial and export trade and for such purposes may, with respect to persons and property situated within British Columbia, exercise all or any powers like those exercisable by the Board for marketing British Columbia-produced turkeys within the Province under paragraphs (a) to (1) and (n) of section 4.01 of the British Columbia Turkey Marketing Scheme, 1966. (July 18, 1967)

Crop Insurance—An Order in Council authorizes the federal Minister of Agriculture to extend the Government of Canada's crop insurance agreement with the Province of Ontario, to enable Canada to assist in the Province's crop insurance plan for spring-planted grains including oats, barley, or mixed oats and barley, and also to provide for the re-insurance of a part of the provincial risk in all crop insurance plans. (July 18, 1967)

Lamb Price Stabilization Order, 1967-68—This order prescribes a price of $18.80 per hundredweight for Good lambs or better, live weight, for the purpose of stabilizing the price of lambs for the 12-month period April 1, 1967 to March 31, 1968. The prescribed price is approximately 92.3 per cent of the national base price. (August 30, 1967)

Wool Price Stabilization Order, 1967-68—A support price of 60¢ per pound, or approximately 140.8 per cent of the base price for representative grades of wool, except Rejects, is prescribed by the Agricultural Stabilization Board for wool produced in Canada and delivered to registered warehouses throughout Canada during the 12-month period which commenced April 1, 1967. (August 30, 1967)

Agricultural Stabilization Board—By Order in Council, Mr. W. E. Jarvis, Assistant Deputy Minister, Production and Marketing Branch, Canada Department of Agriculture, is appointed a member of the Agricultural Stabilization Board in place of Dr. S. C. Hudson. (August 30, 1967)

PUBLICATIONS

ECONOMICS BRANCH PUBLICATIONS

Canada: Trade in Agricultural Products with the United Kingdom, the United States and All Countries, 1965 and 1966, Ottawa. July 1967. Publication 67/9. pp. iii + 33.

This bulletin, which is the twelfth of a series published annually, presents Canadian agricultural trade statistics, arranged by commodities and grouped according to the classification currently used in the Economics Branch, as well as historical summaries of agricultural trade.

UNITED NATIONS PUBLICATIONS

Available in Canada from the Queen's Printer, Ottawa.

National Grain Policies, 1966, Food and Agriculture Organization, Rome. 1967. pp. iii + 214. Price: U.S. $1.25.

This annual bulletin, the eighth to date, reproduces official statements submitted by 66 countries or national authorities on their policies and measures affecting grains.

Fertilizers, An Annual Review of World Production, Consumption and Trade, 1965, Food and Agriculture Organization, Rome. 1966. pp. viii + 213. Price: U.S. $2.50.

This review, which is based on data received from Governments up to May 31, 1966, records and analyses the production, trade, consumption and prices of fertilizers, globally and in the different continents and countries.

Planning, Building and Equipping Home Economics Centers, Haglund, Elsa and L. E. Magnusson, Food and Agriculture Organization, Rome. 1967. pp. ix + 101. Price: U.S. $2.00.

A comprehensive manual describing the functions and different types of home economics centers, methods of teaching home economics, and the location and erection of buildings, layout, installation of amenities, equipment and furnishings.

OTHER PUBLICATIONS

Not available from Economics Branch

Swine Production in Ontario—Hog Feeding Enterprises, Stephens, John R., Farm Economics, Cooperatives and Statistics Branch, Ontario Department of Agriculture and Food, Toronto. 1966. pp. 38.

This report of a Farm Economics study of feeder hog costs, returns and management is based on 96 records of swine businesses in Southwestern and Central Ontario for five years to 1963.

Swine Production in Ontario—Weanling Pig Enterprises, Stephens, John R., Farm Economics, Cooperatives and Statistics Branch, Ontario Department of Agriculture and Food, Toronto, 1966. pp. 42.

A report of a Farm Economics study of weanling pig costs, returns and management based on 65 records of swine businesses in Southwestern and Central Ontario for five years to 1963.

Low-bush Blueberry Production in Canada, Hall, I. V. and L. E. Alders, L. P. Jackson, G. W. Wood and C. L. Lockhart, Information Division, Canada Department of Agriculture, Ottawa. 1967. Publication 1278. pp. 39.

This publication discusses lowbush blueberry production and management, and the control of weeds, insects and diseases that adversely affect blueberry growing in Canada.

Development Plan for the Pilot Region: Lower St. Lawrence, Gaspé and Iles-de-la-Madeleine, Rural Development Branch, Department of Forestry and Rural Development, Ottawa. June, 1967. pp. xix + 265.

This is a summary of a development plan, undertaken by the Bureau d'Aménagement de l'Est du Québec (Eastern Quebec Planning Board), for the Lower St. Lawrence, Gaspé and Iles-de-la-Madeleine region. The publication defines the main objectives in quantitative and qualitative terms; outlines policies, programs, projects and recommendations designed to develop agriculture, fisheries and forestry, as well as those for new activities such as industrial, tourist and mining development, and also deals with the improvement of the labor force and the establishment of an institutional framework.

Special Labour Force Studies, No. 2; Work Patterns of the Canadian Population, 1964, Whittingham, Frank J., Dominion Bureau of Statistics, and Bruce W. Wilkinson, University of Western Ontario. Dominion Bureau of Statistics, Ottawa. April, 1967. Catalogue No. 71-506. pp. 35. Price 75¢.

This is the second in a series of research studies concerned with the analysis of selected economic, social or demographic aspects of the working population in Canada.

Summary Report, Ontario Farm Management and Accounting Project—1965, Plaunt, Darrel H. and K. J. MacKenzie, Ontario Department of Agriculture and Food, Toronto. Publication 315. pp. 47.

A summary report, prepared jointly by the Department of Agricultural Economics, Ontario Agricultural College, Guelph, and the Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture and Food, from farm business data provided by 994 farms in Ontario in 1965.

Productivity, the Use of Human Resources, and the Income Gap, Atlantic Provinces Economic Council, Fredericton. July, 1967. Pamphlet No. 11. pp. 32.

This publication illustrates the nature, size and persistence of the difference in per capita personal income between the Atlantic Provinces and Canada as a whole, and the reasons for the income gap. It also seeks to encourage a faster rate of growth in the Atlantic region through higher rates of productivity.

The People of Manitoba, 1951-1961, Sharp E. F. and G. A. Kristjanson, Department of Forestry and Rural Development, Ottawa. July, 1966. ARDA Research Report, No. RE-2. pp. vii + 60.

A recent study of population growth, distribution and composition, ethnic and nationality groups, human resources in agriculture and a summary of the implications of major population trends in Manitoba.

Burley Tobacco in Ontario, Nelson G. S. and B. H. Tolton, Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture and Food, Toronto. June, 1967. pp. iv + 40.

A survey, with particular reference to the years 1963 and 1964, of output costs, returns and management practices in the production of burley tobacco in Ontario.

The Apple Crop in Ontario, Dillon, W. J. and W. K. Regan, Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture and Food, Toronto. January, 1967. pp. 20.

A report on production costs, returns and management practices in 1958, 1959 and 1960 from data supplied by approximately 100 apple growers in the main apple-producing areas of Ontario.

Grain Corn Production, Fisher, G. A., Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture and Food, Toronto. June, 1967. pp. 56.

This is a report on grain corn costs, returns and management practices in Southwestern Ontario for the years 1958 to 1965, prepared from information provided by 286 farm records.

Interlake Area of Manitoba, Department of Forestry and Rural Development, Ottawa. 1967. Catalogue No. Fo 60-867. pp. 51.

The text of an agreement, signed May 16, 1967 between the Government of Canada and the Province of Manitoba, covering a comprehensive rural development plan for the Interlake area of Manitoba.

Guide to Federal Agricultural Services, Information Division, Canada Department of Agriculture, Ottawa. 1967. Publication 1262. pp. 40.

An outline of the agricultural services offered throughout Canada by the Canada Department of Agriculture and other federal departments, as well as those administered jointly by the federal and provincial governments.

The Adoption or Rejection of Innovations by Dairy Farm Operators in the Lower Fraser Valley, Verner, Coolie and Peter M. Gubbels, University of British Columbia, Agricultural Economics Research Council of Canada. June, 1967. Publication No. 11. pp. ix + 78. Price: $2.00.

A study of 10 innovations introduced to dairy operators in recent years and of the responses to them by 100 farmers selected by random sample.

Agricultural Policy in Perspective, Anderson W. J., Agricultural Economics Research Council of Canada, **An Evaluation of Contemporary and Prospective Objectives for Agriculture,** Gilson, J. C., Department of Agricultural Economics, University of Manitoba. Agricultural Economics Research Council of Canada. July, 1967. Publication No. 12. pp. iv + 30. Price: $1.00.

A publication of two papers analyzing the objectives and issues of agricultural policy in relation to agriculture's needs in the Canadian environment.

STATISTICAL APPENDIX

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1966-67

Commodity, grade and market	1966	1966		1967			
	Average	July	August	May	June	July	August
				dollars per cwt.			
CATTLE (weighted average prices at public stockyards)							
Good slaughter steers							
Toronto	25.85	24.50	24.50	26.48	27.40	27.96	28.26
Winnipeg	25.15	24.10	24.17	25.40	26.45	26.67	27.77
Calgary	24.50	23.52	23.43	24.64	25.71	25.84	26.21
Good feeder steers							
Toronto	27.70	28.00	26.03	28.19	29.49	29.50	29.50
Winnipeg	25.55	24.58	25.93	26.63	27.81	26.58	26.93
Calgary	24.90	23.86	23.37	26.22	26.35	25.94	25.98
Good and choice veal calves							
Toronto	34.95	34.14	33.95	38.87	38.08	35.14	33.63
Winnipeg	34.35	32.24	31.50	39.69	39.42	36.47	36.98
Edmonton	28.20	26.39	25.34	36.76	35.91	30.07	28.91
HOGS (weighted average prices at public stockyards, Grade A dressed)							
Toronto	35.90	35.12	33.98	32.52	32.38	30.44	30.26
Winnipeg	34.45	33.28	34.63	30.33	29.97	27.82	28.46
Calgary	33.50	31.46	33.39	28.88	27.93	26.61	26.76
LAMBS (weighted average prices at public stockyards, Good lambs)							
Toronto	26.50	26.87	23.23	31.47	36.61	33.46	29.51
Winnipeg	21.85	23.78	19.70	23.05	29.38	26.40	24.58
Calgary	22.00	22.08	20.13	22.80	24.62	22.97	21.22
FLUID MILK (f.o.b. factory)							
Halifax	6.00	6.10	6.10	6.10	6.10	6.10	6.45
Montreal	5.41	5.35	5.55	6.00	6.00	6.00	6.00
Toronto	5.52	5.75	5.75	6.10	6.10	6.10	6.10
Winnipeg	5.34	5.48	5.48	5.97	5.97	5.97	5.97
Vancouver	6.59	6.57	6.62	6.77	6.92	7.02	7.04
MANUFACTURING MILK (average farm value)[a]							
Nova Scotia	2.94	3.00	3.01	3.05	3.18	—	—
New Brunswick	3.19	3.20	3.22	3.34	3.12	—	—
Quebec[b]	3.08	2.96	3.04	3.26	3.30	—	—
Ontario[c]	3.14	2.97	3.01	3.36	3.32	—	—
British Columbia	3.24	3.27	3.28	3.49	3.41	—	—
				cents per lb.			
BUTTERFAT (for butter, average farm value)[a]							
Prince Edward Island	65.4	63.0	63.5	67.0	67.5	—	—
Quebec[b]	82.9	82.5	81.0	88.7	88.8	—	—
Ontario[c]	75.7	74.7	74.6	81.4	81.4	—	—
Saskatchewan	61.4	59.3	59.5	63.6	62.9	—	—
British Columbia	78.9	80.5	80.5	87.8	85.8	—	—
				cents per doz.			
EGGS (average paying prices at registered grading stations, Grade A Large)							
Halifax	44.6	39.2	53.4	30.4	28.0	29.8	37.2
St. Anselme	45.5	37.8	53.7	32.2	29.9	29.2	37.9
London	45.4	41.7	53.0	29.6	28.0	28.5	35.1
Winnipeg	38.1	38.7	45.7	24.6	22.0	24.6	29.1
Vancouver	39.9	38.0	43.8	29.2	26.5	28.5	32.4
				cents per lb. live			
BROILERS (average prices paid to growers No. 1 grade chicken under 5 lbs)							
Toronto	20.6	19.8	20.5	19.6	19.0	19.5	19.3
Edmonton	21.8	22.5	22.1	21.5	20.9	20.2	20.2
TURKEYS (average prices paid to growers, No. 1 grade, 12-20 lbs.)							
London	25.4	23.4	23.7	22.9	23.0	23.0	23.1
Edmonton	25.8	—	23.5	—	—	—	25.0

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1966-67 (Continued)

Commodity, grade and market	1966-67 Crop Year Average	1966 July	1966 Aug.	1967 May	1967 June	1967 July	1967 August
				dollars per cwt.			
POTATOES (Can. No. 1 Table, average prices to growers)							
Prince Edward Island	2.85	1.37	1.58	1.07	1.02	1.50	1.90
New Brunswick	2.28	—	1.18	0.73	0.85	0.85	1.33
Southwestern Ontario	2.83	—	1.80	1.30	1.37	2.00	1.88
				cents and eighths per bu.			
EASTERN GRAINS							
Oats (Ont. No. 2 White, f.o.b. shipping points)	82/2	78	78	85	85	85	85
Barley (Ont. good malting, f.o.b. shipping points)	145	145	145	145	145	145	145
Corn (Ont. No. 2 Yellow, f.o.b. Chatham, 15% moisture, in carlots)	152/6	148	152	154	154	154/6	149/4
Soybeans (Ont. No. 2, f.o.b. Chatham)	306/6	364/2	339/7	300/2	304/7	300	297/3
WESTERN GRAINS (basis in store Fort William/Port Arthur, less freight and elevator handling charges)							
Red Spring Wheat (No. 2 Nor.)							
Winnipeg	195/6	193/6	195/1	196/6	195	190/6	188/1
Regina and Edmonton	192/2	190/2	191/5	193/2	191/4	187/2	184/5
Durum Wheat (No. 1 C.W.A.D.)							
Winnipeg	213	205/2	211/6	210/6	209/5	209	218/5
Regina and Edmonton	209/4	201/6	208/2	207/2	206/1	205/4	215/1
Feed Wheat							
Winnipeg	177/3	172/2	174	178/6	177/5	174/6	172/5
Regina and Edmonton	173/7	168/6	170/4	175/2	174/1	171/2	169/1
Oats (No. 1 feed)							
Winnipeg	79/4	81/4	81/7	78/7	79/5	79/7	82/4
Regina	77/4	79/4	79/7	76/7	77/5	77/7	80/4
Edmonton	75/4	77/4	77/7	74/7	75/5	75/7	78/4
Barley (No. 1 feed)							
Winnipeg	117/1	118/4	122	112/6	114/5	115/7	116/5
Regina	114/1	115/5	119/1	109/7	111/6	113	113/6
Edmonton	111/2	112/6	116/2	107	108/7	110/1	110/7
Rye (No. 2 C.W.)							
Winnipeg	125/2	127/3	126/4	129/6	126/6	129/4	122/7
Regina	121/6	124	123/1	126/3	123/3	126/1	119/4
Edmonton	118/5	120/6	119/7	123/1	120/1	122/7	116/2
Flaxseed (No. 1 C.W.)							
Winnipeg	291/3	287/1	292	288/3	296	325/2	340
Regina	288/1	283/7	288/6	285/1	292/6	322	336/6
Edmonton	284/5	280/3	285/2	281/5	289/2	318/4	333/2
Rapeseed (No. 1 C.W. basis in store Vancouver)	278/1	282/6	290/3	273	269/2	270/7	257/6

[a]Since the average farm values for manufacturing milk and butterfat published by the Dominion Bureau of Statistics (D.B.S.) do not include the Federal subsidies as of April 1, 1966, it is necessary to add, during the 12-months' period ended March 31, 1967, the Federal payment of 85¢ a 100 lbs. of milk testing 3.5% butterfat to obtain the full returns to producers. Ten cents were retained for export aid. The net payment of 75¢ a cwt. was made directly to farmers, at the equivalent rate of 21.43¢ a lb. of butterfat. Since the end of the dairy year, a rebate of 2.7¢ a cwt. from the export assistance holdback has been paid to dairy farmers.

Federal subsidies for the 12-months' period April 1, 1967 to March 31, 1968 amount to $1.21 a cwt. of milk testing 3.5% butterfat, of which 11¢ are retained for export aid. The net payment a cwt. is again made directly to producers at the equivalent rate of 31.42¢ a lb. of butterfat.

[b]In the Province of Quebec, and beginning April 1, 1966, full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote [a]), plus a payment made by the Quebec Government. This payment is made on butterfat at the rate of 5¢ a lb. from April 1 to September 30 and at the rate of 10¢ a lb. from October 1 to March 31. Prior to April 1, 1966, this payment, which began in October, 1964, was made through factories and was part of the producer's farm value. It terminated on March 31, 1967.

[c]In the Province of Ontario, and beginning October 1, 1966 until March 31, 1967 full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote [a]), plus a payment made by the Ontario Government. The payments amount to 25¢ a cwt. (7.14¢ a lb. butterfat) of manufacturing milk and secondary and excess fluid milk delivered to plants, basis 3.5% butterfat. For all cream grading Special and/or No. 1, the payment is 10¢ a lb. butterfat.

Government
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HON. J. J. GREENE, MINISTER—S. B. WILLIAMS, DEPUTY MINISTER

CONOMICS BRANCH CANADA DEPARTMENT OF AGRICULTURE

CORRECTIONS

Vol. 2, No. 4, October 1967.

(1) "Costs and Returns from Feeder Hogs in Nova Scotia," page 9, Table 1, line 26, read (across): Labor on hogs, hours 293 284 577. Page 10, left column, line 45, read: 577 for 4,041. Page 11, Table 2: Titles of publications in footnote references a and b should be reversed.

(2) "Changes in Farm Size and Numbers in Canada to 1966." Page 22, Table 2, line 5, read: +1.8 per cent for +17.6 per cent. Page 23, right column, line 19, read: 2 per cent for 18 per cent.

CANADIAN FARM ECONOMICS

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CANADIAN FARM ECONOMICS

COMMODITY REVIEW

FATS AND OILS
DEVELOPMENTS IN PRODUCTION AND TRADE

World

World population in the past 20 years has increased by 30 per cent, while production of oils and fats has increased by almost double that amount, at just under 60 per cent. Per capita consumption in developed countries, which has accounted for most of the increase, has now levelled off and may even be declining slightly.

World production of fats and oils in 1967 is expected to amount to over 39 million tons, up by about 650,000 tons from 1966. Increases have occurred from most main production sources with the principal exceptions of cotton seed oil, palm oil, palm kernel oil, copra and coconut oil. Nigerian exports of palm oil and palm kernel oil have declined sharply and prospects are not good. Cotton seed oil production in the United States has decreased sharply during the last two years, with a decline in 1966 of about 35 per cent and a further fall in 1967 of 15 per cent, but an increase is anticipated for 1968. The USSR has increased its cotton production to the extent that it has now surpassed the United States.

Soybean production has climbed steadily for several years, with principal increases in the United States where production has been spreading, particularly in the central south, in recent years. Soybean yields are expected to increase in the United States with the introduction of a new growth regulating chemical. Russian soybean production is also rising. The United States handles about 90 per cent of the world's exports. Rapeseed production has increased sharply in Europe and further increases are expected there. Production of rapeseed rose in China by 10 per cent in 1966, and production of oils and fats in that country is considered to be 10 times that of pre-revolution days.

Sunflower production in the USSR has been increasing in recent years, although last year's huge crop of over 6 million tons will not be matched in 1967. The Argentine is also becoming a heavy sunflower producer, and increased production is occurring in the United States. In the USSR, fertilizer has been improving yields, and oil content, which has gone up from about 35 per cent to 50 per cent within a few years, may go higher. Sunflowers are rich in minerals and vitamins, and the oil has good keeping qualities. Peanut production in India is expected to be up in 1967 by 1.8 million tons, and record crops are expected in Nigeria and the United States.

Fish oil production, particularly in Norway and Peru, has also increased sharply in recent years.

Canada

Canada's production of oils and fats come from vegetable, animal and marine sources, but Canada is able to draw from all oil producing countries and utilizes most of the other oils from time to time, with price and oil characteristics for blending being determining factors.

In 1966, Canada produced 15.8 per cent of the world's flaxseed, 5.6 per cent of the rapeseed, 0.8 per cent of the world's soybeans, and 0.2 per cent of the world's sunflower. Rapeseed production appears to be the vegetable oil crop with the best prospects for expansion in Canada, although improvement by selection is still necessary. Rapeseed oil now constitutes about 20 per cent of the vegetable oil used in Canada. The Argentine type of rapeseed matures late and any frost damage is reflected in oil quality.

Flaxseed in Canada can be planted late but does not yield as well as rape, and in face of the substitutes now available will likely continue to decline in importance.

Soybeans are not adapted to eastern or western Canada and compete with other crops only in southwestern Ontario. Results from fertilization have not been rewarding. Sunflower production has enjoyed limited success due to failure to mature before frost; 2,4-D damage, and damage from birds. Among other vegetable oil plants mustard may be the principal prospect for oil production, although the oil percentage rate is relatively low.

Canada in 1966 exported 7.1 per cent of the world's exported oilseeds compared with 8.2 per cent

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in 1963. Over the same period, net world exports of rapeseed, flaxseed, soybeans, mustard seed and sunflower seed increased by about 40 per cent to approximately 7 million tons in 1966 with most of the increase being in soybeans from the United States.

By 1975, world imports of fats and oils should total about 6 million tons, up from 5 million tons in 1961. Japan and Western Europe will take most of the increase. Over the same period exports from developed countries should double to nearly 5 million tons, with most of the increase being from North America, particularly the United States. There are indications that centrally planned countries in Eastern Europe and Asia could increase imports sharply in the coming years. Developing countries are expected to increase imports of fats and oils to 2.5 million tons in 1975 from the level of 750,000 tons in 1961-63, and these countries should also raise their exports sharply at the same time.

Japan is expected to be an expanding market for imports of fats and oils. Canada should be in a position to capture a large part of the growth in this market by sales of rapeseed. This and other developments have implications for Canada. Reduced production of flaxseed by the United States and the Argentine should permit Canada to retain a fair share of the market still available in various parts of Europe and Japan for this commodity. The soybean picture is clouded by loss of preference in the United Kingdom market under the recent tariff agreement. Rapeseed markets however, should continue to develop and rapeseed should become Canada's outstanding oilseed product.

J. S. Carmichael

CONSUMPTION OF EDIBLE FATS AND OILS IN CANADA

The utilization pattern for many of the edible fats and oils consumed in Canada is changing. Consumption of creamery butter, which has been showing a downward trend since about April 1966, is expected to continue on its downward swing in 1968. The decline is believed to be closely allied to concern about animal fats in the diet, and to a change in the consumer's preference for substitute products. Although butter prices have increased about 4¢ a pound since April 1966, they are still close to 1¢ a pound less than in 1958, because of the federal dairy support policy.

The demand, in Canada, for both lard and edible tallow during the last five years has been greater than production. In 1966, total use amounted to 146 million pounds—about 20 per cent of which was imported. In spite of sharp increases in hog slaughterings in 1967, Canada's lard imports are expected to be at record or near-record levels. The decrease in lard yield per hog is associated with the trend towards leaner hog carcasses—a trend which is also occurring in the United States, our chief source of imports. Marine oil prices, however, have been dropping to the point where they are extremely competitive with lard and edible tallow.

The types of oils and fats used in the production of margarine and shortening depend primarily on the prices and availability of supplies. Margarine manufacturers require oils which, when blended, will produce a product of good flavor and consistency. Soybean and rapeseed are the predominant oils currently used in Canada for shortening, margarines and salad oils and in 1966 accounted for nearly half the total oils used. Other vegetable oils include coconut, cottonseed, palm and palm kernel, peanut, corn and sunflower seed. Large quantities of marine oils are also used and shortening manufacturers are heavy users of lard and edible tallow. The use of rapeseed oil in the production of margarine and shortening is increasing rapidly. It is forecast that consumption of rapeseed oil may exceed that of soybean oil in the future.

Retail sales of packaged shortening are fairly static, but there is a strong growth in bulk sales, as the baking trade moves towards mass-produced products.

Consumption of salad and cooking oils is expected to increase, moving from the present level of 10-12 per cent to 20-25 per cent of total per capita fat consumption. It is expected also that sunflower seed oil will replace cottonseed oil as a preferred quality oil within the next decade.

Research, undoubtedly, will find new uses for existing fats and oils and new products that will be superior to existing ones.

V. McCormick

THE DIMENSIONS OF THE DAIRY PROBLEM

J. S. Lohoar

When the problems of the dairy industry in Canada were discussed at the 1962 Canadian Agricultural Economics Society Workshop, it was concluded "that the basic problem of the dairy industry is a resource adjustment problem" (*1*). The continued existence of inadequate returns to some of the resources employed in dairying indicates that the problem is still present. The essence of the problem is that at price levels at which the demand for milk and milk products can be maintained, the returns to the resources employed on some dairy farms are insufficient to provide adequate incomes for their operators.

In this paper, some of the factors resulting in this less than optimum allocation of resources are considered. The characteristics of the industry which contribute to the persistent nature of the problem are discussed. Particular emphasis is given to the demand and supply relationships for milk and milk products since it is considered essential for the problem to be viewed against the background of the prevailing market situation.

Structure of Dairy Farming

An important feature of the dairy industry is that it is essentially composed of a large number of relatively small businesses. Although there is considerable variation in the size of dairy farms, the average size of dairy herd remains small (Table 1). Of herds with three cows or more, the average size for Canada in 1966 was 15 cows. This is extremely small in relation to the number of cows which can be adequately managed by an operator using modern techniques of milking, housing and feeding.

There is a large number of small herds and considerable variation in herd size. For example, in 1966 over 54 per cent of all herds in Canada of three cows or more consisted of less than 13 cows. A large percentage of small herds is especially evident in the Prairie and Maritime Provinces, whereas herds of between 13 and 32 are more common in British Columbia, Ontario and Quebec. The corresponding figures for 1951, 1955 and 1961 for Canada as a whole, together with the 1966 figures are illustrated in Figure 1. Although, there is a definite trend towards larger herds, the percentage of herds with more than 33 cows is still very small. It is therefore obvious that there remains considerable potential for further rationalisation within the industry by achieving fewer but larger herds.

The Canadian Dairy Commission's records of farmers registered under the 1966-67 Dairy Support Program provide information on the number and size, in terms of annual deliveries, of manufacturing milk and cream producers (Table 2). The figures are for last year and therefore do not reflect the current situation. The average annual delivery per manufacturing milk and cream producer was small. For example, manufacturing milk producers delivered, on average, less than 100,000 pounds of milk in 1966-67. If revenue from milk sales comprised the main source of income on these farms, it follows that adequate net incomes were not received because gross sales would be less than $5,000. To the extent that these herds are only part of the total farm business they do not necessarily represent low income farms. However, other evidence indicates that many of these farms do rely on milk production as a major source of income (*2*). Annual average deliveries by cream producers are smaller than deliveries by manufacturing milk producers. Incomes, too, will likely be lower.

TABLE 1—PERCENTAGE OF TOTAL DAIRY HERDS (3 COWS OR MORE) OF VARIOUS SIZES AND AVERAGE HERD SIZE, CANADA AND PROVINCES, 1966

	Number of Cows in Herd						Total Number of Herds	Total Number of Cows	Average Herd Size
	3-7	8-12	13-17	18-32	33-47	Over 47			
	per cent of dairy herds								number
Canada	32.1	22.4	15.2	22.2	5.7	2.4	174,401	2,608,440	15.0
British Columbia	28.7	9.6	7.6	28.4	15.2	10.5	3,308	76,988	23.3
Prairie Provinces	58.5	23.9	8.1	6.7	1.7	1.1	54,988	503,797	9.2
Ontario	17.5	20.1	16.7	31.0	10.1	4.6	45,861	900,307	19.6
Quebec	15.9	22.7	21.9	31.6	6.2	1.7	57,929	989,252	17.1
Maritime Provinces	46.0	25.7	11.7	12.4	3.0	1.2	12,313	138,061	11.2

Source: Census Division, Dominion Bureau of Statistics from *Census of Agriculture*, 1966.

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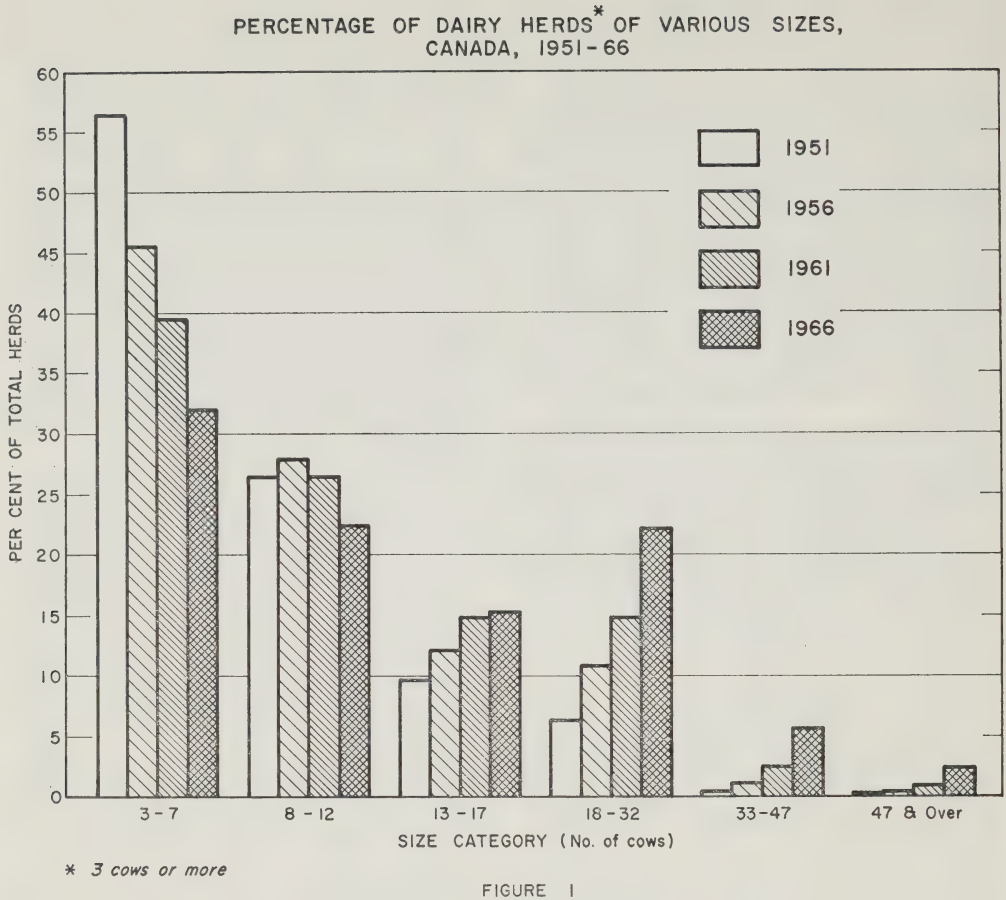


FIGURE 1

TABLE 2—NUMBER AND SIZE OF MANUFACTURING MILK AND CREAM PRODUCERS, CANADA, 1966-67

	Annual Deliveries of Milk per Producer (pounds of milk)						
	0-23,999	24,000-47,999	48,000-95,999	96,000-143,999	144,000-191,999	192,000- and over	Total
Manufacturing Milk Producers							
Number of Producers	11,067	10,154	19,485	12,852	7,301	7,701	68,560
Per Cent of Producers	16.1	14.8	28.4	18.8	10.7	11.2	100.0
Per Cent of Deliveries	1.8	5.5	20.9	22.9	18.2	30.7	100.0
Average Delivery (lbs.)	10,714	36,142	71,200	118,000	165,542	264,514	96,771
Manufacturing Cream Producers							
Number of Producers	56,081	25,992	16,891	3,526	787	258	103,535
Per Cent of Producers	54.1	25.1	16.3	3.4	0.8	0.3	100.0
Per Cent of Deliveries	18.8	27.9	34.8	12.6	4.0	1.9	100.0
Average Delivery (lbs. of milk equivalent)	10,771	34,429	66,085	114,257	163,086	243,400	30,971

Source: Canadian Dairy Commission.

A small number of large producers ship a big percentage of the total supplies of both manufacturing milk and cream. Conversely, a large number of small producers make a relatively small contribution to total supplies. For example, 59 per cent of manufacturing milk shippers supplied only 28 per cent of total deliveries whereas the remaining 41 per cent delivered 72 per cent of total supplies.

These figures over-state, to some extent, the unequal contribution of individual producers to total milk supplies since it is possible for a single producer to ship both manufacturing milk and cream as well as, in some cases, fluid milk. In addition, it should be noted that the figures are based on deliveries per individual producer. Therefore, when a farm changes ownership during the year two separate records for a single farm appear in the table, thus exaggerating the number of smaller producers. Nevertheless, the figures do quantify the great variation in size between milk producers which in turn creates considerable problems when developing programs and policies which can be implemented equitably.

The Demand for Milk

The problem of resource adjustment in the industry is intensified because it is occurring at a time when the demand for milk and milk products is increasing very slowly. If the demand for milk was buoyant, the need for reduced resources in milk production would not be so great and the process of adjustment would be eased. The demand situation in the industry is, therefore, an important characteristic of the problem.

The total demand for milk reflects the quantities of milk used for the manufacture of dairy products as well as milk used for fluid consumption. The total disappearance of milk in Canada and the pattern of utilization for the period 1963-66 are shown in Table 3. Approximately one-third of the domestic demand for milk is for fluid consumption, one-half is utilized as butter, and the remaining one-sixth consumed as other dairy products, mainly cheese. Total disappearance and the distribution between the various end uses has been very stable since 1963, with total demand showing small annual increases up to 1965, but declining slightly in 1966. This is the first decrease in the total quantity of milk used domestically since 1961.

The stability in the total disappearance of milk conceals the decline which has been occurring in the per capita consumption. Although the annual growth in population has been of the order of 2.4 per cent in recent years, this has not been reflected in the total quantity of milk demanded since per capita consumption has been falling (Figure 2). The rate of decrease in fluid milk consumption has been more consistent than that of the quantity of milk

PER CAPITA CONSUMPTION OF TOTAL MILK, MANUFACTURED PRODUCTS AND FLUID MILK & CREAM CANADA, 1957-66

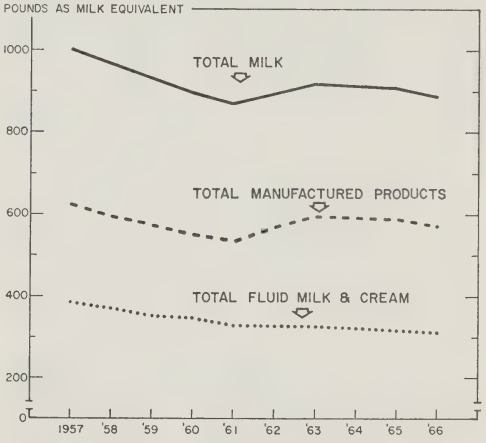


FIGURE 2

TABLE 3—DOMESTIC DISAPPEARANCE OF MILK AND DAIRY PRODUCTS IN TERMS OF MILK EQUIVALENT, CANADA, 1963-1966

	Total Milk	Fluid Products[a]	Ice Cream[b]	Butter	Cheese[c]	Other Manufactured Products[d]
			million pounds			
1963	17,212	5,965	499	8,364	1,535	848
1964	17,452	6,040	490	8,476	1,627	819
1965	17,606	6,085	537	8,423	1,744	818
1966	17,540	6,104	636	8,228	1,775	796

[a] Includes fluid sales plus milk and cream consumed in farm homes.
[b] Data adjusted to exclude the milk equivalent of creamery butter used in manufacturing ice cream mix.
[c] Excludes farm-made cheese.
[d] Evaporated milk, condensed milk, milk powder and other milk products.
Source: Dominion Bureau of Statistics, *Dairy Statistics*, 1966, Cat. No. 23-201, p. 20.

consumed in the form of dairy products which has tended to fluctuate to a greater extent. In the case of fluid milk there has also been a switch in consumer preference from standard milk to milk of 2 per cent butterfat content.

The trend in the per capita consumption of the various manufactured dairy products has not been identical (Figure 3). The consumption of cheese, ice cream, skim milk powder and cottage cheese have all shown relatively consistent increases during the last 10 years, whereas the per capita intake of butter has followed a fluctuating but downward trend. However, since the quantity of milk consumed as butter is nearly three times as great as the volume utilized in other dairy products, the per capita decline in butter consumption has more than offset the gains in the demand for cheese, ice cream, etc.

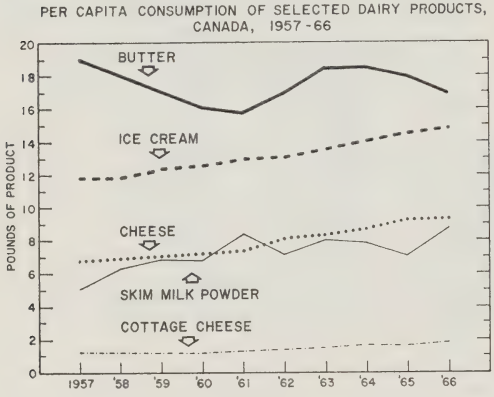


FIGURE 3

The low price and income elasticities for milk and dairy products as a whole are, unfortunately for the dairy industry, a fact of modern life. The demand for milk and milk products does not vary greatly with price changes. Similarly, consumers do not spend their extra income on larger purchases of dairy commodities but are much more likely to increase their demand for such consumer goods as electrical appliances and cars. Conversely, when incomes fall the demand for milk and dairy products is less adversely affected than sales of luxury items. However, this does not provide much consolation for the dairy farmer at the present time when increased urban incomes are not being reflected in an increased demand for his products. Nevertheless, when it is considered that per capita consumption of milk in all forms in Canada is 885 pounds compared with the United States where it is only 603 pounds, it appears unlikely that the downward trend in consumption will be easily reversed.

The Supply of Milk

Milk supplies in Canada increased steadily between 1957 and 1962 but have since remained relatively constant at approximately 18,400 million pounds. Although the number of dairy cows has declined steadily since 1961, production has been maintained by increased yields per cow (Table 4).

TABLE 4—TOTAL MILK PRODUCTION, NUMBER OF DAIRY COWS AND YIELD PER COW, CANADA, 1963-1966

	Total Milk Production	Number of Dairy Cows, June 1	Average Milk Production Per Cow
	million pounds	thousands	pounds
1963	18,432	2,914	6,325
1964	18,505	2,906	6,368
1965	18,360	2,885	6,364
1966	18,375	2,799	6,565

Source: Dominion Bureau of Statistics, *Dairy Statistics*, 1966, Cat. No. 23-201

In contrast with the slow rate of expansion in the demand for milk, there appears to be a general tendency for the supply of milk to increase. In the same way as factors other than price are important in determining the quantity of milk and milk products demanded, milk supplies in recent years have been influenced by improved production technology and changes in the pattern of utilization, in addition to price changes.

The greater use of artificial breeding, improved disease control and housing have all contributed to the gains in yield per cow. However, there still remains a considerable gap between average milk production per cow and the yields achieved in the best herds. Therefore, continued increases in yields can be expected.

A further factor increasing available milk supplies has been the gradual replacement of farm separated cream by factory separated cream, in the manufacture of butter. Whereas in 1957, 75 per cent of the creamery butter was produced from farm separated cream, it is estimated that only 44 per cent of the creamery butter supplies in 1966 originated from farm separated cream. This shift in utilization has resulted in considerable extra quantities of skim milk being available for sale rather than being fed to livestock. Although the demand for dry skim milk has been good, relative to that for fluid milk and other products, the demand has been easily met due to the availability of these additional supplies. In the same way, the shift in demand from standard

fluid milk to 2 per cent milk has released extra supplies of butterfat which were not formerly available for butter manufacture or cream sales.

An unknown factor in the current supply situation is the impact of the 1967-68 Dairy Support Program on farmers' production plans. Under the Program, subsidy eligibilty quotas have been issued to each producer and it is possible that these quota arrangements may discourage some farmers from increasing their herds. However, structural changes in the pattern of utilization are likely to continue, perhaps at an accelerated rate, and will result in more butter and solids not fat coming onto the market. Therefore, together with the continued increases in yields per cow, the available supplies of milk and milk products for sale could increase, even if the number of dairy cows remains unchanged.

Structural Barriers to Resource Adjustment

In addition to the unfavorable demand and supply relationship facing dairy farmers, there are a number of rigidities in the production sector of the industry which complicates the process of resource adjustment, especially in relation to the movement of manpower out of the industry. It is convenient to divide these factors into three categories:

(1) *Institutional Rigidities*—The existence of two distinct markets for milk, i.e. the fluid and manufacturing milk markets, together with quota restrictions tends to inhibit the rationalization of dairy farms into fewer but larger units with an accompanying release of resources. A producer with a contract to deliver a given quantity of fluid milk has little incentive to expand in order to achieve the economies of scale available with larger units. Quota arrangements may tend to discourage the entry of new producers who might be in a position to produce milk more efficiently than existing producers. Similarly, the possession of a quota may enable some producers to remain in the industry when otherwise they might go out of milk production.

Therefore, it would appear that the existing pricing and marketing arrangements for milk may have a tendency to maintain the status quo in the industry rather than encouraging more efficient production of milk.

(2) *Fixed Equipment*—A high proportion of the resources used in producing milk do not have alternative uses. These fixed items include milking machines and bulk tanks, and to some extent dairy cows. Once this fixed equipment and livestock has been established there is an incentive for producers to continue in production even though, if replacement costs were considered, the operation would be uneconomic (*3*).

(3) *Lack of Alternatives*—Closely related to the tendency for some dairy farmers to be "frozen" in milk production because of the specialized nature of much of their equipment is the lack of an alternative use for the resources at the farmer's command, either on or off the farm.

In many cases the possibility of producing other commodities is strictly limited. Many dairy farms are located in areas where extensive arable farming such as grain growing is not possible because soil, topography and climate are unsuitable. An equally important limitation is often the small size of farm which dictates that the type of farming followed must be intensive if an adequate income is to be obtained. In this context, dairying often provides the only means by which the land and labor resources on small farms can earn a regular cash return. The regularity and frequency of payment for milk is an important advantage in favor of milk production. The greater need for credit, the high cost of feed grains in many dairying areas and distance from urban centers hinders the switching of resources into other intensive enterprises such as egg, poultry or hog production.

For many dairy farmers, off-farm employment opportunities are also severely restricted. Many dairy farms are located in areas where there is little alternative employment. Furthermore, a recent survey of manufacturing milk producers indicated that their average age was 48 years (*4*). This suggests that many dairy farmers would have difficulty in qualifying for off-farm jobs, even if they were available. In some areas the dairy problem may therefore be further complicated by this inability of dairy farmers either to find or qualify for alternative jobs. It has been suggested that "the problem of farm labor adjustment and farm income may be ceasing to be a simple transfer problem and becoming one whose solution is very different because of a changing age and skill structure in the agricultural labor force" (*5*).

SUMMARY

The demand for milk and milk products even at the subsidized prices of recent years has not increased with the result that the total size of the market for milk in all forms in Canada has remained constant. On the other hand, improved technology and changes in utilization have maintained milk supplies even though costs of production have increased. The resulting pressure on market prices in the face of

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rising costs has necessitated considerable support for producer prices from public funds.

This deterioration in the market conditions facing dairy farmers is the underlying reason for the need for fewer resources employed in milk production. However, the problem of resource adjustment is accentuated by the existence of several factors which are tending to inhibit the movement of resources out of the industry. These include institutional rigidities in the marketing and pricing of milk, the tendency for farmers with established dairy units to remain in production and the lack of alternative uses for resources. In some regions where there are many dairy farmers and few alternative employment opportunities, it is likely that the adjustment process may constitute a social as well as an economic problem.

The prospect is that productivity gains will continue to result in milk supplies increasing at a faster rate than the total demand for milk. It is therefore unlikely that market prices for milk and milk products and, in turn, producer returns from the market will increase in real terms, especially if factor costs continue to rise. In the absence of increased subsidy payments, improvements in income levels will largely depend on the development of fewer but larger dairy farms.

NOTES AND REFERENCES

(*1*) *Seventh Annual Workshop Report of the Canadian Agricultural Economics Society*, Problems of the Dairy Industry in Canada, 1962, p. 43.

(*2*) See, for example, Dominion Bureau of Statistics, *Census of Agriculture*, data on commercial farms typed as Dairy Farms.

(*3*) For a more detailed discussion of this point, see G. I. Trant, "*Recent Canadian Dairy Price Policies*", Department of Agricultural Economics, Ontario Agricultural College, pp. 6-7, and the same author in *Seventh Annual Workshop Report of CAES*, op. cit. pp. 3-6.

(*4*) H. J. Mestern, D. M. MacKay, W. J. White, *Preliminary Report on the Dairy Survey, 1966*, Economics Branch, Canada Department of Agriculture, March 1967, p. 7.

(*5*) M. L. Lerohl and G. A. MacEachern, "Factor Shares in Agriculture: The Canada-U.S. Experience", *Canadian Journal of Agricultural Economics*, Vol. XV, No. 1, 1967, p. 13.

A COMPARISON OF THE DAIRY SUPPORT PROGRAMS IN THE UNITED STATES AND CANADA

H. J. Mestern and V. McCormick

The dairy industries in the United States and Canada have much in common. Geographically, most of the milk production in the United States occurs in those states near the border between the two countries, while most of the Canadian milk production occurs no further than 100 miles north of that border. Canadian and United States dairy industries operate under very similar economic conditions. Trends in milk production in the two countries tend to follow the same pattern.

The United States is the second largest milk producing country in the world—the U.S.S.R. is the largest. The United States is also the world's largest producer of cheese, condensed and evaporated whole milk and dry skim milk. In butter output, it is exceeded only by the Soviet Union.

Total milk production in the United States is 6.5 times that of Canada, however, on a per capita basis milk production is almost 50 per cent higher in Canada. Food consumption trends in the United States and Canada are similar with an emphasis on protein foods and a trend away from the consumption of animal fats. Canadians, however, consume about three times as much butter per capita as Americans. The large domestic demand for milk and dairy products from a population of 220 million people in the United States and Canada is satisfied almost entirely from domestic production.

Because of the similarities in the two countries, it is only logical that dairy policies would have much in common. An exception is that in the United States, the Federal Government has wide powers in fluid milk marketing, which in this country falls under the jurisdiction of the provinces.

Price support programs for dairy products are a means of stabilizing producer prices for manufacturing milk and cream. The history of the current dairy support policy dates back to the late years of World War II and the immediate post-war years when the dairy industry in North America was encouraged to expand production to provide food for Europe, whose normal supplies were not available. In Canada, milk was largely diverted into cheese for the United Kingdom. Canadian cheese exports rose from 81 million pounds in 1938 to a high of 142 million pounds in 1942, but when Europe recovered and other supplies became available they declined to a low of 2 million pounds in 1952. Similar changes occurred in the exports of evaporated milk.

In the United States, butter exports rose from practically nothing in the pre-war years to 100 million pounds in 1943, then dropped to almost nothing by 1952. United States cheese exports, which were insignificant before the war, increased to 305 million pounds in 1942 and decreased rapidly after the war to less than 4 million pounds in 1952. Exports of evaporated whole milk, which had reached a high of 928 million pounds in 1946, dropped to 97 million pounds in 1952. There was also a drastic decrease in U.S. exports of dry skim milk during this period.

Once the demand for North American agricultural products dropped off, governments in the United States and Canada were obliged to assist the farm community to adjust to the new conditions and to prevent a farm price collapse similar to that of the early 1920's. Assistance took the form of price stabilization policies for key agricultural products. Specific policies were devised to assist the dairy industry to realize fair returns for its labor and investment. Support prices in general have taken into consideration the costs of goods and services purchased by farmers.

Two instruments of price stabilization, which have been commonly applied in the United States and Canada are "offer-to-purchase" programs and export assistance programs. In Canada, in addition to the above methods, a system of direct subsidy payments to producers has been introduced.

In taking manufactured products off the market during periods of over-supply at guaranteed prices, governments, in effect, create a floor price for manufacturing milk. Canadian returns to producers per 100 pounds of manufacturing milk were below those in the U.S. until 1964; since that time they have risen above the U.S. level. For the 1967-68 dairy support year, the United States support price for manufacturing milk is $4.06 per 100 pounds compared with the Canadian price of $4.64 (Table 1). Although the established support prices for butter, cheese and dry skim milk are at a higher level in the United States than in Canada, returns to producers for milk going into these products are higher in Canada because of the direct federal payment to farmers of $1.10 per 100 pounds of milk (31.42¢ per pound butterfat).

The theory of the offer-to-purchase program is that if the support (purchase) price is in line with the price at which consumers are willing to purchase the average annual output, the seasonal and year-to-year variations in supply can be averaged over a number of years. Both governments have purchased

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TABLE 1—SUPPORT PRICES OF BUTTER, CHEESE, DRY SKIM MILK AND MANUFACTURING MILK, UNITED STATES AND CANADA, 1962-1967

Dairy Year	United States				Canada			
	Butter	Cheese	Dry Skim Milk (Spray)	Manufacturing Milk[b]	Butter	Cheese	Dry Skim Milk (Spray)	Manufacturing Milk
	Can. ¢ per pound[a]			Can. $ per cwt. (3% b.f.)	Can. ¢ per pound			Can. $ per cwt. (3% b.f.)
1962-63	61.9	37.0	15.4	3.05	64.0[c]	32.5	[d]	[e]
1963-64	62.4	38.4	15.5	3.15	64.0[c]	32.5	[d]	[e]
1964-65	62.4	38.4	15.5	3.17	64.0[c]	32.5	[d]	[e]
1965-66	63.5	38.9	15.7	3.28	64.0[c]	35.0	[d]	3.52[e]
1966-67	65.6	42.3	17.9	3.54	59.0[c]	38.0	18.0	4.10 (4.03 net)
1967-68	72.6	47.2	21.2	4.06	63.0[c]	38.0	20.0	4.75 (4.64 net)

[a] U.S. prices converted to Canadian currency, on the basis of the average yearly exchange rate.

[b] The U.S. support prices for manufacturing milk as announced, refer to a national average butterfat test, which is higher than 3.5 per cent and is changing. The 1967-68 price is based on 3.72 per cent butterfat. The announced prices U.S. currency were: 1962-63, $3.11; 1963-64, $3.14; 1964-65, $3.15; 1965-66, $3.24; 1966-67, $3.50; 1967-68, $4.00.

[c] Producer support consisted of a butter purchase price plus a subsidy on butter: 1962-63, 52¢ + 12¢; 1963-64, 52¢ + 12¢; 1964-65, 53¢ + 11¢; 1965-66, 55¢ + 9¢ + 4.75¢ (supplementary payment on milk at the rate of 20¢ per 100 pounds). The butter subsidy as such was dropped in 1966-67 and a direct payment to farmers initiated (1966-67, 21.43¢ per lb. butterfat; 1967-68, 31.42¢ per lb. butterfat).

[d] The Agricultural Stabilization Board was authorized to purchase dry skim milk by tender at prices not exceeding 8.5¢ in 1962-63 and 11.0¢ in 1963-64. No purchase programs were in effect in 1964-65 and 1965-66.

[e] Implicit price: 1962-63, $2.62; 1963-64, $2.86; 1964-65, $3.16.

TABLE 2—CREAMERY BUTTER REMOVED FROM THE MARKET THROUGH PRICE SUPPORT AND RELATED PROGRAMS, UNITED STATES AND CANADA, 1961-62 TO 1966-67

Marketing Year	United States			Canada		
	Commodity Credit Corporation Purchases	Total Butter Production[a]	Purchases as per cent of Production	Agricultural Stabilization Board Purchases	Total Butter Production[a]	Purchases as per cent of Production
	million pounds		per cent	million pounds		per cent
1961-62	434.9	1,484.1	29.3	109.6	352.1	31.1
1962-63	347.1	1,537.1	22.6	90.5	361.7	25.0
1963-64	292.7	1,420.1	20.6	71.7	351.9	20.4
1964-65	352.5	1,434.2	24.6	86.0	351.7	24.4
1965-66	161.7	1,323.0	12.2	65.0	337.4	19.3
1966-67	109.1	1,119.0	9.7	61.5	334.1	18.4

[a] Calendar year.

butter and cheese, and the United States has purchased dry skim milk on a regular basis. In Canada, the most important government purchases have been the butter purchases, and in recent years these have averaged almost one-fifth of the annual production (Table 2). It is interesting to note that for the years 1961-62 to 1964-65 the amount of butter removed from the market by government agencies as a percentage of total production was about the same in both countries.

Export assistance has been widely used by both the U.S. and Canadian governments as a part of dairy support programs. The bulk of support purchases in the United States, particularly dry skim milk, has been disposed of as surplus stocks through gifts and non-commercial transactions, including sales for local currencies and government-to-government purchases.

The volume of U.S. non-commercial export sales and outright donations of whole milk products and dry skim milk has been decreasing in recent years. Exports of whole milk products were sharply lower in 1966 than in the previous year. Although U.S. exports of dry skim milk have also decreased in recent years, government programs accounted for about 86 per cent of the total exports of this product in 1966.

Since Canadian prices for dairy products are presently higher than world prices, export subsidies are necessary in order to sell on international markets. At the present time, an export assistance fund, administered by the Canadian Dairy Commission, is used to help finance exports of dairy products, particularly dry skim milk and cheese. The fund is derived from a holdback of 11¢ deducted from the direct subsidy payment of $1.21 per 100 pounds of milk, or cream equivalent, paid to farmers by the federal government during the support year 1967-68. In 1966-67, the holdback was 10¢ and a rebate of 2.7¢ was made. Before 1966-67, the Canadian government financed export aid for dairy products, when such assistance was necessary.

For the five years, 1961-62 to 1965-66, the net cost to the Canadian government of supporting milk and dairy products averaged about $53.4 million. In the United States, the figure, at $482.1 million was about nine times as large (Table 3). The annual net expenditures ranged widely in both countries. The $117 million spent in Canada during 1963-64 was directed largely towards the removal of government-owned surplus butter stocks, which had increased during the years 1958 to 1963.

One important reason for the establishment of dairy supports in almost all the industrialized countries is that there are large numbers of small farms producing dairy products. In supporting the price of milk and milk products, governments in the United States and Canada are assisting in the maintenance of income on half or more of the farms in these countries.

In addition to assisting producers maintain their incomes, price supports can be adjusted to encourage production in times of shortages, thus avoiding substantial increases in consumer prices for milk and dairy products. The subsidies for butter in Canada in recent years have had the effect of lowering the price of this product to consumers. The direct payment subsidies currently in effect in Canada. allow dairy products to be offered to the consumer at lower prices than would otherwise be the case.

TABLE 3—DAIRY INDUSTRY PRICE SUPPORT PROGRAM—NET COST, UNITED STATES AND CANADA, 1961-67

	United States	Canada
	Commodity Credit Corporation Net Expenditure and Special School Milk Program[a] [b]	Net Cost of Price Support Program
	Canadian $'000[b]	
1961-62	703,262	15,629
1962-63	603,822	59,703
1963-64	492,335	117,208
1964-65	448,158	53,960
1965-66	162,886	50,266
1966-67	n.a.	90,000*
1967-68	n.a.	120,000*

[a] Source: *Dairy Situation*, U.S. Department of Agriculture, November 1966.
[b] Converted to Canadian currency, on the basis of the average yearly exchange rate.
* Estimated.

ECONOMIC ASPECTS OF SLOTTED-FLOOR CONFINED BEEF FEEDING

V. J. Miles (1), R. Hironaka (2), J. E. Turnbull (3)

Slotted-floor beef feeding barns are insulated, fan-ventilated, generally windowless structures with slats above concrete pits where urine and feces accumulate. With cattle density of about 40 to 50 pounds of animal per square foot of pen space, the slotted floors are self-cleaning and no bedding is required. Labor costs per pound of gain are lower than for conventional feedlot systems. The first controlled-environment beef feedlot in North America was built in Minnesota, U.S.A., in 1963.

The basic reason for the introduction of this housing system is that, as cattle are warm-blooded animals, they can produce more gain from a given feed supply when an optimum environment is provided (*4*). Another important potential economic advantage derived from providing an environment conducive to rapid gains is that velocity of turnover may be increased and an opportunity to gain more price margin is presented. This potential is not explored in the present study.

This paper endeavors, from data obtained in a one-call survey, to determine costs of gain in 10 controlled-environment feedlots. Comments on engineering factors and the contribution of innovating feeders who adapted the new system and notes on nutritional aspects have been published (*5*), (*6*).

SURVEY METHOD

A team approach was used in completing the survey questionnaires. Thus, it was possible from one call in December 1966 to assess engineering (*5*) and nutrition (*6*) practices as well as gather the cost data presented here. This survey was a pilot study designed to acquaint the authors with the present status of controlled-environment beef feeding as preparation for contemplated research at the Canada Department of Agriculture Station, Lethbridge, Alberta. The units surveyed were widely dispersed and subject to a variety of climatic and economic conditions that may differ to some extent from conditions in Alberta. Also, most of them are in the corn belt of the United States where corn is the main grain fed.

Only units that had been in full operation for at least one year were included in the survey. For the economic analysis, original costs of buildings and equipment were recorded along with operational costs for the preceding year. Where available, cattle weights and accurate dates were recorded. In some cases concurrent weights of feeds consumed were available. Grains and consumption thus obtained are used as input-output indices in the environments provided. All prices and costs are given in U.S. currency.

Capital Requirements

Capital costs were tabulated under three headings (Table 1):

(1) Livestock building, including all structural components and fans, heaters, and that portion of the feed machinery contained in the livestock building. The last constituted a small proportion of the total equipment and was included here because some operators could not separate the cost components of the controlled-environment portion of their unit.

(2) Feed building and storage, including silos, grain bins, and any part of the building not having controlled environment.

(3) Equipment, comprising silo unloaders, meters, scales, conveyors, manure pumps, and spreaders. Trucks and tractors were considered to be rented from other enterprises and were not included in capital of the feeding enterprise.

TABLE 1—INVESTMENT[a] PER HEAD OF CAPACITY BY TWO GROUPS OF SLOTTED-FLOOR BEEF HOUSING INNOVATORS

	Management Group	
	High Silage	High Grain
Number of enterprises	4	4
Capacity (number of head)	372	364
Investment per head of capacity	dollars	
Cattle building	112	120
Feed building and storage	61	17
Equipment	32	21
Total	205	158

[a] Investment per head is calculated on the basis of 20 square feet of usable pen space per animal.

Non-Feed Costs

Annual costs of building operation were compared before including the effect of manure credit or cattle interest (Table 2). Tractor expenses were included with labor costs as part of manure removal expense under miscellaneous, and the manure removal expenses were included in the sub-total for

building operation cost. The manure credit appears later in Table 2. Purchase and marketing costs are excluded from Table 2 so that the building and operation costs may be readily compared with existing custom feedlot charges.

TABLE 2—ANNUAL NON-FEED COSTS PER HEAD OF CAPACITY OF SLOTTED-FLOOR BEEF FEEDLOTS BY MANAGEMENT GROUP, 1966

	Management Group	
	High Silage	High Grain
	dollars per head of capacity[a]	
Building and feed storage expense[b]	14.21	11.07
Equipment expense[c]	5.32	3.66
Labor[d]	1.97	4.33
Miscellaneous expenses[e]	6.61	8.09
Total building operation cost	28.11	27.15
Manure credit[f]	−13.93	−13.93
Interest on cattle and feed[g]	12.00	12.00
Net annual cost	26.18	25.22

[a] Based on 20 square feet of cattle pen space per animal.

[b] Annual buildings ownership costs calculated as: depreciation, 5 per cent of cost; interest, 3 per cent of original cost; repairs, 1.5 per cent of cost; plus actual annual taxes and insurance costs.

[c] Annual equipment ownership costs calculated as: depreciation, 10 per cent of cost; interest, 3 per cent of cost; repairs, 3 per cent of cost; plus actual annual taxes and insurance costs.

[d] Operator or hired labor at $1.50 per hour, exclusive of labor for manure removal, which is included with manure removal expense as part of miscellaneous expenses.

[e] Includes a charge for manure removal based on observed manure accumulation rate of 0.77 cubic feet per day for each 20 square feet of pen space and removal of 750 cubic feet at an hourly cost for labor and tractor of $3.50 per hour.

Other miscellaneous costs include cattle insurance, electricity, fuels, veterinary fees, drugs, telephone, and accounting.

[f] Credit of $1.99 per ton derived from the value of the N and P_2O_5 content of liquid manure of 0.71 per cent and 0.36 per cent with N at $0.10 per pound and P_2O_5 at $0.08 per pound.

[g] Interest on cattle and feed calculated at 6 per cent of $10.00 per square foot of pen space.

RESULTS

General

It was possible to use the data from only eight of the 10 units surveyed. Six were located in the Iowa-Minnesota-Illinois area, one in Idaho, U.S.A., and one in Manitoba, Canada. They fell into two equal groups, "High Silage" and "High Grain", on the basis of the proportion of grain in the ration. Feedlot operators used their judgment of profit potential as their criterion of choice between available feeder cattle and paid little attention to color or breed. Many Holstein and crossbred cattle were fed. Several operators mentioned that they often realized greater price margins and comparable gains on "plainer-looking" cattle than on "stylish" cattle of traditional beef breeds. Capacity of the feedlots averaged 368 head, ranging from 140 to 588.

Capital

Capital investment in livestock buildings was $112 per head of capacity in the High Silage group and $120 in the High Grain group. The relatively high building-cost was due to the fact that the buildings were completely insulated and had several large exhaust fans. In some instances, the ventilation system was quite elaborate with electronic equipment to control the opening and closing of fresh-air louvres. Generally, an auger feed system was used and its cost was included in the cost of the building. Loans for buildings were at 5.5 to 6 per cent interest except for one at 7 per cent and one for the custom construction of the building shell at over 10 per cent. All terms were between 7 and 15 years.

Investment in feed mixing and storage ranged widely from $5.51 to $103.32 per head of capacity and reflected great differences in type of feed and amount and accuracy of on-farm processing. At the lower investment, no feed building was provided, but the grain tanks used for holding purchased complete feed were joined to the center feed manger of the cattle building by auger. At the high feed-handling investment, feed units included glass-lined steel and conventional silos; feed was weighed, recorded, metered, and mixed before it was conveyed to the cattle. There was a marked difference between the High Silage and the High Grain Groups (Table 1).

The higher building, feed storage, and equipment expenses of the High Silage group, compared with some of the High Grain group, reflect the greater investment in feed storage and equipment of the silage group. Labor costs for the High Grain group, which seem abnormally high compared with those for the High Silage group, were affected by the extra time spent by one operator in compounding his own supplement from micro-nutrients, rather than using a prepared commercial supplement, and by another in observing and weighing cattle.

The annual total building costs of $28.11 and $27.15 for the High Silage and High Grain is equivalent to the cost of 7.7¢ and 7.4¢ per head per day, respectively. Subtracting the manure credit, the net daily cost per head amounted to 3.9¢ and 3.6¢. Daily custom feedlot charges per head in southern Alberta are in the range of 7¢ to 11¢ per head per day.

Interest on cattle and feed costs, when included with the costs discussed above, gave total annual costs of $26.18 and $25.22, thus the total daily non-feed costs were 7.2¢ and 6.9¢ for the High Silage and High Grain groups, respectively. All feedlot operators interviewed had arranged cattle loans to the full value of incoming cattle at interest rates from 5.5 to 7 per cent.

Manure credits given in this analysis are for the N and P_2O_5 content as stated in Table 2. The system of storing the excrement in the concrete pits may have extensive social value in air contamination control as well as economic value in water pollution control, but analysis of these features is beyond the scope of this paper.

Pen Area — Cost Relationship

A floor space of 20 square feet per animal unit (866-pound animal) was considered full (100 per cent) capacity. Costs given by operators were taken to apply to that full capacity condition even though, due mainly to manure equipment difficulties and empty pens of one unit, the average pen space at enumeration was 22.9 square feet per animal. Operators considered 19 square feet per animal as optimum. Erwin (*7*) considers 18 to 20 square feet per animal optimum for the Arizona environment with cattle on slats and provided with a sunshade only, he suggests 10 square feet per animal as the lowest practical limit. At the very low rate of 35 square feet per animal, Henderson *et al* (*8*) found feed cost to be about $1.00 per 100 pounds of gain higher for cattle in controlled environment than for cattle housed at the same density in a conventional open feedlot. However, straw for bedding costs about $2.70 per 100-pound gain in the conventional lot whereas no straw was used in the slotted-floor unit.

Projections are made for pen space allowances of 20, 25, and 30 square feet per animal unit (Table 3). Value judgments (*9*) were made on certain of the miscellaneous costs to deduce costs for 25 and 30 square feet of space per animal unit. Purchase and marketing costs per head were not increased at the two stocking intensities under 100 per cent, consistent with the findings of McCoy and Wakefield (*10*) for open farm feedlots. Also, data from the survey were not sufficient to indicate change in feed cost per head as intensity of use decreased. Mahoney *et al.* (*11*) have reported 20 per cent greater feed cost per pound of gain with 15 square feet than with 25 square feet of floor space per animal.

TABLE 3—NON-FEED, MARKETING, AND FEED COSTS OF NET SALEABLE BEEF PRODUCED IN CONTROLLED ENVIRONMENT BARNS AT THREE STOCKING DENSITIES[a], BY MANAGEMENT GROUP

	100 per cent Stocking Density		80 per cent Stocking Density		66.7 per cent Stocking Density	
	Management Group		Management Group		Management Group	
	High Silage	High Grain	High Silage	High Grain	High Silage	High Grain
	dollars per head of capacity					
Net annual non-feed costs	26.18	25.22	32.00	30.42	37.56	35.00
	pounds per head of capacity					
Net annual saleable beef produced[b]	868.7	956.3	868.7	956.3	868.7	956.3
	dollars per 100 pounds net saleable beef produced					
Non-feed costs[c]	3.01	2.64	3.68	3.18	4.32	3.66
Purchase and marketing costs	2.57	2.57	2.57	2.57	2.57	2.57
Feed costs[d]	14.25	17.19	14.25	17.19	14.25	17.19
Total costs	19.83	22.40	20.50	22.94	21.14	23.42

[a]Twenty square feet of pen space per animal equals 100 per cent.

[b]Annual gain per head of capacity less shrink of 4 per cent and death loss of 0.67 per cent. Shrink and death loss were applied to an average final feedlot weight of 1066 pounds prorated to 400 pounds gain.

[c]Line one divided by line two.

[d]Feed costs of $12.47 and $15.05 per 100 pounds gain $\times \frac{100}{87.53}$ to give dollars per 100 pounds net saleable beef produced.

Cost of Net Saleable Beef

The average daily gains reported by operators of the High Silage and High Grain groups of 2.72 and 2.99 pounds, respectively, are reduced by the shrink and death loss factors reported by producers (Table 3). The 400-pound gain program used here for analysis is typical but not necessarily the average program of the producers surveyed.

The only other place (besides shrink and death loss) where this analysis concerns itself with the beef purchased for feeding is in the purchase and marketing costs that are added to the non-feed costs as described and feed costs in determining total costs. An attempt is thus made to eliminate from this the influence of margins obtained by the producers. The purchase and marketing costs of $2.25 per 100 pounds of gain reported by producers and shown in Table 3 as $2.57 per 100 pounds of net saleable beef produced, includes the costs of transport and purchasing of feeder cattle coming into the lot and for marketing this portion of the total weight sold out of the feedlots. The above purchase and marketing cost is considerably higher than that reported by other workers (*10*), (*12*). This difference in cost may be attributed to attempts by operators to attain greater price margins by selling on more favorable but more distant markets, a practice that contributes to the abnormally high purchase and marketing costs. The higher rates of gain, which appear from this study to be attainable in controlled-environment barns, would permit a given gain to be put on each animal more quickly. Thus, a more rapid cattle inventory turnover is possible. Price margins reported by operators in the survey range from —6.5 to 6.8 cents.

Even with the 30 square feet per animal unit, the sum of the non-feed costs and the purchase and marketing cost per 100 pounds of net saleable beef produced are lower than the total non-feed expense over 100 pounds gain of $7.39 attained by survey of conventional farm feedlots in Alberta by Haythorne and Elgaard (*12*). Also, the cattle fed in a controlled environment appear to have had higher efficiencies of feed utilization and their bedding cost was nil. Thus their feed and bedding costs per 100 pounds of gain at $14.25 for the "High Silage" groups and $17.19 for the "High Grain" groups, were considerably less than those of the Alberta cattle ($19.77).

Research is needed to assess more accurately the effects of pen area per animal unit of slotted-floor feedots of various sizes as Richards and Korzan (*13*) have attempted to do for conventional open feedlots.

With reservations already mentioned this study suggests that high investment per head of capacity in controlled-environment beef barns may be compatible with reducing both non-feed and feed costs of beef produced.

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THE UNITED KINGDOM MARKET FOR CANADA'S AGRICULTURAL EXPORTS

M. N. Gifford

In May, 1967, Britain formally applied for membership in the European Economic Community and this action has once again focused attention on the importance of the British market for our farm products and the impact on Canada's agricultural exports should the application be accepted.

If the U.K. is admitted to the E.E.C. under terms whereby she will have to accept the present Common Agricultural Policy, Commonwealth countries (with the possible exception of New Zealand) will not be afforded any special arrangements in shipping agricultural products to the enlarged Community. Commonwealth exports to the United Kingdom would therefore face a similar level of tariff barriers and levies to that prevailing in the E.E.C. This potential development is in sharp contrast with the current system of protection in Britain, whereby Canada's agricultural exports for the most part enjoy duty-free entry and a "margin of preference" over non-Commonwealth supplies. That is to say, the present U.K. tariff structure differentiates between Commonwealth and non-Commonwealth imports. The difference between the preferential tariff rate applicable to Canada and the rate applicable to the United States for example, is known as the margin of preference.

In view of the obvious implications inherent in Britain's application to join the E.E.C. it appears timely to examine the structure and magnitude of Canada's agricultural trade with the U.K. and to place this development in perspective.

RELATIVE IMPORTANCE OF THE U.K. MARKET FOR CANADIAN AGRICULTURE

Between 1954 and 1960 our exports of farm products showed little or no growth—Canadian agricultural exports to all markets averaged $927 million annually. During this period the U.K. market consistently accounted for nearly a third of the total. However, with the development in the 1960's of the centrally-planned economies as major outlets for wheat, the relative importance of the U.K. market has declined (Table 1). In 1966 the U.K. accounted for only 16.5 per cent of Canada's farm exports. Nevertheless, although the U.K. market has decreased significantly in its relative importance, in absolute terms it has increased marginally. Between 1961 and 1966 agricultural exports to the U.K. averaged $310 million annually compared with a 1954-1960 annual average of $283 million.

The decline in the relative importance of the U.K. market has been a function of the rapid growth of Canada's total farm exports, particularly wheat in the 1960's. Total agricultural exports rose from $909 million in 1960 to $1,862 million in 1966. The growth in aggregate farm exports has been largely due to the emergence of the U.S.S.R. and Mainland China (and to a lesser extent other centrally-planned economies) as important markets. Canadian agricultural exports to these countries rose from $14 million in 1960 to $606 million in 1966. Moreover, in 1966, the U.S.S.R. became Canada's largest single market for agricultural

TABLE 1—CANADA'S AGRICULTURAL EXPORTS TO SELECTED AREAS, 1960-1966

Area	1960	1961	1962	1963	1964	1965	1966
	millions of dollars						
United Kingdom	289	273	295	321	332	332	308
United States	193	225	224	223	211	274	280
EEC	149	213	184	181	180	216	221
Japan	104	119	113	133	139	143	173
Centrally-Planned Economies[a]	14	180	176	308	600	402	606
USSR	—	13	—	148	313	190	319
China	—	120	147	104	136	105	183
Other	160	213	165	193	240	226	274
Total	909	1,193	1,157	1,359	1,702	1,593	1,862

[a]Includes Mainland China and the U.S.S.R.

Source: *Canada Trade in Agricultural Products with the United Kingdom, the United States and All Countries*, Canada Department of Agriculture, Economics Branch, various issues.

products, taking $319 million compared with the U.K.'s imports of $308 million.

The recent growth in our trade in farm products with the centrally-planned economies has been spectacular and has therefore tended to obscure the significance of Canada's traditional export markets. It must be noted that the composition of our exports to the centrally-planned economies has been very narrow, over 97 per cent wheat and flour in 1966, whereas our exports to Britain have been more diversified. Although nearly 50 per cent of our exports to Britain consist of wheat and wheat flour this does not mean, however, that the U.K. market is not of major importance for other products. As may be seen from Table 2, for many of Canada's farm exports Britain is, in fact, almost the only market. For example the U.K. took over 90 per cent of our exports of the following products in 1966: soybean oilcake and meal (99.4 per cent); cheddar cheese (94.2 per cent); soybeans (95.6 per cent); soybean oil (99.9 per cent); dried beans (91.6 per cent); linseed oil (99.9 per cent); and honey (92.6 per cent).

IMPLICATIONS FOR CANADA OF BRITISH MEMBERSHIP IN THE E.E.C.

A major stumbling block in the earlier approaches by Britain for membership in the E.E.C. was the question of the Common Agricultural Policy (C.A.P.). Since the C.A.P. will likely prove a major factor influencing the trading relationship in farm products between Canada and the U.K. if Britain joins the E.E.C., it is pertinent to examine how it is developing and how it would change the existing agricultural situation in the U.K.

The common policy for agriculture is an integral part of the Treaty of Rome and, despite a considerable number of crises during its formation, a common regulated system of prices now exists or is about to exist for 85 per cent of the total agricultural production of the E.E.C. In January, 1967, organized markets and uniform prices were introduced throughout the Community for fruits and vegetables. This was followed in July by the implementation of common prices and marketing arrangements for all grains, pigmeat, eggs and poultry. In 1968, the regulations for dairy products, beef and sugar will be implemented on a common basis throughout the Community. For the remaining products such as lamb, hops, tobacco, wine, intra-Community free trade will be fully realized by 1970.

The central feature of the Common Agricultural Policy is the high level of internal (target) prices to which domestic production is oriented. This is achieved by three principal means, viz: the regulation of imports from non-member countries, export subsidization and internal support buying. Import control, either through variable levies as for grains, or tariffs and quotas as in the case of beef imports is the primary mechanism for protecting the domestic producer. The levy system is applied to more than half of the agricultural imports of the E.E.C. The variable levies are equal to the difference between the lowest bona-fide price at which imports are offered (c.i.f. Europe) from non-member countries and a minimum import price which in turn is related to the domestic target price in the E.E.C. for the product concerned. A system of common external tariffs regulates imports of agricultural products not covered by levies.

The contrast between the method of agricultural support in the E.E.C. and the system of support presently employed in Britain is very great. The E.E.C. supports market prices to the farmer through the regulation of imports and the main cost of the system is borne directly by the consumer through the prices paid for agricultural products. The British system allows market prices to approximate the level of world prices while compensating farmers with direct cash payments so that they receive a predetermined price. The cost of the U.K. system is largely borne by the taxpayer. (The British method is similar to Canada's deficiency payment programs for sugar beets and eggs.) The existing British price support system therefore provides relatively free access for farm products from exporting countries. If British membership should result in a change from this relatively free access to a system of import control through adoption of the C.A.P. by Britain, our exports of farm products could of course be affected. Canadian exports at present entering the U.K. free of duty would face protective barriers. They could also face shrinking markets in Britain due to expanding domestic production encouraged by the high level of E.E.C. guaranteed prices.

Another important factor would be the loss of preferential entry into the U.K. market. The E.E.C. regulations prohibit preferential tariff treatment of non-members or non-associated countries and therefore the advantage to Canada at present provided by the system of Commonwealth preferences would disappear. We would therefore find ourselves on the same competitive footing as all other third-country exporters, in particular the U.S.A.

TABLE 2—CANADIAN AGRICULTURAL TRADE AND TARIFFS WITH THE UNITED KINGDOM AND THE EUROPEAN ECONOMIC COMMUNITY

Product	PRE-KENNEDY ROUND								POST-KENNEDY ROUND			
	U.K. Rate				Can. Agr. Exports to U.K.			Total U.K. Imports	U.K. Rate			
					Value		Per cent of Exports					
	Pref.	MFN	Pref. Margin	EEC Rate	1960	1966	1966	1966	Pref.	MFN	Pref. Margin	EEC Rate
					$ 000	$ 000		$ 000				
Wheat	Free	Free	0	variable levies	170,043	132,352	12.5%	324,668		— no change —		
Barley	Free	10%	10%	variable levies	38,598	5,741	12.8%	10,853		— no change —		
Wheat flour	Free	10%	10%	variable levies	29,394	16,690	20.1%	23,323		— no change —		
Tobacco, raw	£3.15s.10d per lb. ($11.38)	£3.17s.4½d per lb. ($11.61)	23¢/lb	28%	21,795	32,927	86.8%	253,866	$11.38 (25% loss of preference)	$11.55	17¢/lb	23%
Soybean oilcake and meal	Free	15%	15%	Free	13,762	20,144	99.4%	26,903	Free	10%	10%	Free
Flaxseed	Free	10%	10%	Free	20,746	12,084	19.9%	13,682		— no change —		
Cheddar cheese	Free	15%	15%	23% (variable levy)	5,978	13,027	94.2%	114,062		— no change —		
Soybeans	Free	5%	5%	Free	5,017	10,424	95.6%	37,697	Free	Free	0	Free
Hides, skins, furs	Free	Free	0	Free	6,536	8,186	12.2%	200,258		— no change —		
Apples, fresh	Free or free + Q.R.	65¢/cwt. or free + Q.R.	65¢/cwt.	8–14%	3,203	4,334	42.6%	82,931		— no change —		
Edible offals	Free	Free or 20%	0–20%	20%	1,784	4,587	56.5%	89,590	Free	Free or 10%	0–10%	12–14%
Soybean oil	Free	15%	15%	crude-10% other-15%	1,992	3,727	99.9%	5,305		— no change —		
Tallow, inedible	Free	10%	10%	2%	3,975	3,455	29.2%	12,198		— no change —		Free
Beans, dried	Free	8%	8%	9%	157	3,352	91.6%	15,797	Free	4%	4%	4.5%
Seeds for sowing	Free	10%	10%	5–8%	1,537	2,272	15.2%	11,028	—	no change —		4–6%
Screenings, pelleted	Free	10%	10%	21%; levy	N.A.	3,699	57.4%	13,161		— no change —		
Linseed oil	Free	15%	15%	10–15%	760	3,727	99.9%	7,613		— no change —		
Honey	Free	75¢/cwt	75¢/cwt	30%	185	2,178	92.6%	5,898	—	no change —		27%
Onions, fresh } shallots, fresh }	Free	76¢/cwt	76¢/cwt	12%	531	1,081	61.1%	24,927		— no change —		
Linseed oilcake/meal	Free	10%	10%	Free	681	796	59.1%	1,255		— no change —		
Tomato juice	Free	10%	10%	24%	392	1,119	83.0%	1,703	Free	5%	5%	no change
Corn, canned	Free	10%	10%	25%	80	2,002	87.3%	N.A.	Free	5%	5%	20%
Potato products, frozen	Free	10%	10%	19%	—	2,056	89.4%	N.A.	—	no change —		18%
Malt	Free	10%	10%	20%	—	926	11.6%	N.A.		— no change —		
Sausage casings	Free	Free	0	Free	884	1,029	15.1%	19,631		— no change —		
Casein	Free	10%	10%	2–14%	—	1,041	19%	7,562		— no change —		
Peas, frozen	Free	10%	10%	19%	—	1,701	87.2%	N.A.	—	no change —		18%

Further, within some of the E.E.C. regulations, there is a built-in incentive for member countries to obtain their import requirements from within the Community rather than from the outside. This, together with the removal of tariffs against European supplies, means that British entry could involve preference to the advantage of E.E.C. member suppliers instead of in favor of Canada.

The precise impact of British membership cannot be fully assessed until the conditions of membership are known together with the level of the common external tariff structure. The recent Kennedy Round of trade negotiations resulted in minor changes in the E.E.C. tariff schedule, and it is possible that further changes will occur before entry negotiations are completed. In addition, it is likely that Britain will not immediately adopt the E.E.C. regulations but that provision will be made for a transitional period during which the Common Agricultural Policy will be implemented gradually.

IMPLICATIONS FOR CANADA'S AGRICULTURAL EXPORTS

A clearer idea of the implications of Britain's entry into the E.E.C. on Canadian exports can be obtained if we consider the major commodity groups making up our trade.

Wheat

In 1966, shipments of wheat and wheat flour were valued at $149 million, representing 48 per cent of Canadian agricultural exports to Britain. Although the relative importance of the U.K. market has declined in recent years, due to the emergence of the U.S.S.R. and China as major buyers, the outlet remains of considerable importance to Canada. In 1966, the U.K. took nearly 13 per cent of our wheat exports and over 20 per cent of our wheat flour exports.

Since wheat at present enters the U.K. free of duty from all sources, Canada's position in relation to other non E.E.C. exporters will be unaffected. The major barriers to the maintenance of wheat exports will be the levy system of the C.A.P. which would impose a variable duty on all wheat imports into the U.K. as a member of the E.E.C. Fortunately for Canada, hard wheat of high milling quality is not grown in the U.K. and with existing technology is a requisite for bread making. Moreover, as the size of the levy is the same for all wheat, regardless

TABLE 3—TOTAL EXPORTS AND EXPORTS OF AGRICULTURAL PRODUCTS TO THE UNITED KINGDOM BY MAJOR GROUPING, 1960-1966

Commodity	Exports to U.K.						
	1960	1961	1962	1963	1964	1965	1966
	million dollars						
All commodities	915.3	909.3	909.0	1,006.8	1,199.8	1,174.3	1,122.6
Agricultural products	289.1	272.9	295.3	320.6	331.9	332.4	308.4
Grains[a]	166.1	146.1	156.1	175.3	162.1	160.2	143.4
Grain products	22.7	22.9	23.2	23.2	22.2	21.1	18.0
Animal feeds	3.2	1.3	4.0	2.0	4.0	5.3	6.1
Oilseeds	26.0	29.4	24.4	19.1	22.3	26.9	23.2
Oilseed products	17.1	17.4	23.6	28.8	26.2	32.5	26.2
Meats	1.9	1.7	1.8	2.6	4.5	5.2	5.4
Other animal products	11.5	11.6	8.4	12.6	15.6	14.5	13.2
Dairy products	7.6	6.0	8.8	10.6	26.0	13.3	14.4
Fruits and nuts	3.6	5.0	8.2	7.4	7.1	7.0	6.8
Vegetables (except potatoes)	4.8	2.6	4.6	7.5	6.2	7.6	9.8
Potatoes[b]	—	—	—	1.4	1.0	1.3	2.1
Seeds for sowing[c]	1.5	1.0	1.7	2.7	2.7	2.6	2.3
Honey	0.2	0.6	0.6	0.8	1.1	1.9	2.2
Tobacco, raw	21.8	24.9	26.6	23.8	28.4	30.4	32.9
Plantation crops[d]	—	1.1	0.9	1.2	0.9	1.6	1.4
Other vegetable products	0.6	0.7	1.8	0.9	0.9	0.7	0.8

[a]Excludes seed wheat and seed oats.

[b]Frozen potato products only.

[c]Includes seed wheat and seed oats.

[d]Mainly coffee products.

Source: *Canada Trade in Agricultural Products with the United Kingdom, the United States and all Countries*, Canada Department of Agriculture, Economics Branch, various issues.

of quality, its incidence is slightly lower on the higher priced quality hard wheats such as Canada supplies.

Feed Grains

Throughout the 1960's Canada's exports of feed grains to the U.K. (mainly barley) have generally been on the decline. For example, barley exports fell from $39 million in 1960 to less than $6 million in 1966. This decline in the volume of our exports can be traced to two factors—increased domestic production of feed grains in the U.K. and the competitive advantage of U.S. corn. Under the E.E.C. regulations Canadian exports of feed grains would not only face variable levies but would also lose the preference of 10 per cent which they currently enjoy in the U.K. market.

Oilseeds and Oilseed Products

In 1966 Canada shipped over $46 million worth of oilseeds and oilseed products, representing 16 per cent of all our agricultural exports to the U.K. The main items were soybeans ($10 million), flaxseed ($12 million), soybean oilcake and meal ($20 million) and soybean oil ($4 million).

If Britain adopts the E.E.C. regulations free entry will continue for soybeans, soybean meal, and flaxseed but the 15 per cent preferential margin for meal, 5 per cent for beans and 10 per cent for flaxseed will be lost. In addition oil exports will face a 15 per cent tariff on refined and a 10 per cent tariff on crude oil in place of the free entry which now exists. However, it should be noted that the margin of preference on soybeans and soybean meal which Canada currently enjoys in Britain will be reduced in 1968 as a result of the U.K. implementation of Kennedy Round concessions. As a consequence of the G.A.T.T. negotiations, Commonwealth preferences on soybean oilcake and meal will be reduced over four years from the present 15 per cent to 10 per cent and the preference of 5 per cent on soybeans will be removed completely.

Dairy Products

The U.K. purchased 94 per cent of Canada's exports of cheese in 1966, valued at $3 million. The U.K. has been the only long-term export outlet for our production. Canadian Cheddar sells at a premium in the U.K., over home-produced cheese and other imported supplies. Under the proposed E.E.C. dairy regulations Canadian cheese would not only lose the present 15 per cent margin of preference but would also face a high variable levy, which would increase its price considerably on the U.K. market.

Tobacco

In 1966 shipments of raw tobacco to the U.K. were valued at $33 million, representing 87 per cent of our total tobacco exports. Exports to the U.K. have increased rapidly in recent years largely due to the British embargo on Rhodesian tobacco.

Existing tariff rates provide a preferential margin for Canadian tobacco of 23¢ a pound, or approximately 2 per cent over Most-Favored-Nation suppliers, such as the U.S.A. With the implementation of the Kennedy Round concessions this margin will be reduced to 17¢ a pound. Under the U.K.'s post-Kennedy Round rate Canadian tobacco exports will face a tariff of 23 per cent in the Common Market.

Apples

Exports of apples to the U.K. in 1966 were worth over $4 million and represented nearly half of our apple exports. Apples are, at present, admitted free of duty into the U.K. from all sources during the period of August to April, subject to quota arrangements. During the remainder of the year M.F.N. supplies face a duty of 65¢ per cwt. Under the E.E.C. regulations, Italy and France would have tariff free entry into the U.K. market whereas Canadian apples would face a tariff of between 8 per cent and 14 per cent. However, balanced against the implementation of the E.E.C. tariff would be the likely removal of the British quota restrictions which are not permitted under present E.E.C. regulations.

Processed Fruits and Vegetables

Canadian exports of processed fruits and vegetables to the U.K. which enter duty free have experienced a rapid rate of growth in recent years. In 1960 Canada exported $600,000 worth of canned tomato juice, canned corn, frozen potato products, pickles and relishes, frozen peas and canned apples. In 1966 the British market took $8.3 million worth of these products. The recent expansion in this trade to the U.K. has relied heavily on the preferential margin which ranges from 8 per cent to 15 per cent. However, with the implementation of the U.K.'s Kennedy Round concessions, Canada's margin of preference will be reduced for some of these items. For example, the preference margin on canned tomato juice and canned corn will be reduced from 10 per cent to 5 per cent. Under the Common Market's C.A.P. for fruits and vegetables, Canadian exports would not only lose their preferential margins

but would also face E.E.C. tariffs ranging up to 25 per cent.

Other Commodities

Canada's exports to the U.K. of grass and clover seeds ($2.3 million in 1966) presently enjoy a preference margin of 10 per cent. In the E.E.C. (post-Kennedy Round) our exports will encounter tariff rates of between 4 per cent and 6 per cent. Exports of edible offals ($4.6 million in 1966), a portion of which are subject to a margin of preference, will face tariff rates of between 12 per cent and 14 per cent on U.K. entry into the E.E.C. Exports of tallow ($3.5 million in 1966) will face a loss of preference of 10 per cent but will gain free entry into the Community due to the Kennedy Round decision of the E.E.C. to remove the present 2 per cent tariff. Honey exports ($2.2 million in 1966) will encounter a 27 per cent tariff. In addition, a preference of 75¢ per hundredweight will be lost.

CONCLUDING COMMENTS

As little is known at present of the conditions under which the U.K. might enter the Common Market, it is not possible to indicate with any degree of certainty the potential effects on Canada's trade. However, an attempt has been made to indicate the major commodity areas where the adoption of the E.E.C.'s agricultural policy by the U.K. could affect the access to that market now enjoyed by Canadian products.

The implications of British entry for Canadian agriculture should be viewed both in the period immediately following Britain joining and also in the longer run. In the short run, it is possible that some problems for particular commodities may arise. However, in the longer run, with the prospect of a more rapid rate of growth for Britain within rather than outside the Community, it is possible that an increase in the market for Canada's exports of agricultural products and raw materials could result.

Ontario Broiler Chicken Producers' Marketing Order—The Farm Products Marketing Board of Ontario and the Ontario Broiler Chicken Producers' Marketing Board are authorized to regulate the marketing of broiler chickens in interprovincial and export trade and for such purposes may, with respect to property and persons situated in Ontario, exercise all or any powers similar to those already possessed for marketing broiler chickens within the Province. (September 21, 1967)

Honey Regulations—Separate regulations governing the grading, packing and marking of honey in Canada have been issued, pursuant to the Canada Agricultural Products Standards Act. The Fruit, Vegetables and Honey Regulations have also been amended to exclude references to honey in them. (September 21, 1967)

Agricultural Task Force—A special task force has been appointed by the Minister of Agriculture to project national agricultural goals and to recommend policies to meet them. The members of the force are: Dr. D. R. Campbell, Professor of Political Economy and Associate Dean of Arts and Science, University of Toronto; Mr. Pierre Comtois, a partner of Bélanger, St-Jacques, Sirois, Comtois & Co., Chartered Accountants, and a member and a director of Bélanger, Chabot, Nobert, Angers, Management Consultants of Montreal; Dr. J. C. Gilson, Professor and Head of the Department of Agricultural Economics, University of Manitoba; Dr. D. L. MacFarlane, Professor and Head of the Department of Agricultural Economics, Macdonald College; Dr. D. H. Thain, Professor of Business Administration, University of Western Ontario.

The task force will be asked to co-operate with the provinces in providing a firm basis for the development of a long-term agricultural policy. (September 22, 1967)

Charolais Cattle Export Control—The Department of Trade and Commerce has taken action under the Export and Import Permits Act to control the export of full-blooded French Charolais cattle from Canada. This restriction has been introduced to prevent persons with permits to import Charolais cattle from transferring their permit rights to non-residents of Canada. (September 22, 1967)

Interim Sugar Beet Payment—The Agricultural Stabilization Board has been authorized to make an interim deficiency payment on 1967 sugar beet production of $3.00 per standard ton (250 pounds of sugar). Should growers' organizations wish to make private financial arrangements for any additional advances to producers, the Board is also prepared to consider underwriting such advances up to a further $2.00 per standard ton. Both forms of advance payment are subject to settlement against the final deficiency payment, when calculated. (October 16, 1967)

Egg Support Program—The national average price to producers for Grade A Large eggs amounted to 36.7¢ per dozen for the 1966-67 support year ended September 30. There will thus be no deficiency payment by the Agricultural Stabilization Board to producers under the 1966-67 program which provided for a floor price of 34¢ per dozen for a minimum of 1,000 dozen and a maximum of 10,000 dozen per producer of Grade A Extra Large, Large and Medium eggs. (October 23, 1967)

PUBLICATIONS

ECONOMICS BRANCH PUBLICATIONS

Provincial Agricultural Legislation in the Atlantic Provinces 1967, Economics Branch, Canada Department of Agriculture, Ottawa. August, 1967. Publication No. 67/6. pp. iv + 78.

This publication contains summaries of agricultural legislation on the statute books of the four Atlantic provinces as of July 1, 1967.

Egg Marketing in Alberta, Kidd J. D. F., Economics Branch, Canada Department of Agriculture, Ottawa. September, 1967. Publication No. 67/10. pp. ii + 34.

The report of a study of the marketing system for eggs in Alberta, based upon an analysis of egg marketing records from 1962 to 1966 kept by the Poultry Division, Canada Department of Agriculture, and upon interviews with managers of egg marketing firms in Alberta in 1966.

Selected Indicators of Agricultural Land Use, Average Farm Occupied, and Improved Area and Livestock Numbers, Stutt R. A., Economics Branch, Canada Department of Agriculture, Ottawa. October, 1967. Publication No. 67/11. pp. 17.

This publication illustrates, by pictorial means, selected agricultural indicators by province, county and census divisions used in the 1966 Census of Canada.

UNITED NATIONS PUBLICATIONS

Available in Canada from the Queen's Printer, Ottawa

Recent publications by the Food and Agricultural Organization of the United Nations, Rome, include:

(i) **FAO Commodity Review 1967.** July, 1967. Publication No. CCP 67/23. pp. iii + 208. Price: US $2.00.

This publication, which is one of an annual series of reviews, deals with the general situation and outlook for commodity trade and prices, the situation with regard to individual commodities, and recent international action on commodity problems.

(ii) **FAO Symposium on Crop Losses.** 1967. pp. 330.

The report comprises papers presented at the FAO Symposium on Crop Losses in Rome in October 1967, and includes the analysis and forecasting of disease epidemics and insect outbreaks; the economic aspects of crop losses; types of crop losses; principles of measurement of crop losses; problems in evaluating and expressing crop losses; methods for measuring crop losses, and national and international programs for the evaluation of crop losses.

(iii) **Information on Land Reform, Land Settlement and Co-operatives.** 1967. Publication No. 1. pp. 48.

This biannual publication contains articles on land settlement, agricultural co-operatives and the role of World Food Program assistance in land settlement and reform. Informational notes are also included.

(iv) **Production Yearbook 1966, Volume 20.** 1967. pp. xvi + 763. Price: US $9.00.

This publication includes all statistical data on agricultural production available from FAO member countries as of December 31, 1966.

(v) **Agricultural Commodities—Projections for 1975 and 1985** (Volumes I and II). 1967. Publication No. CCP 67/3 (Rev.). pp. Volume 1, v + 339; Volume 2, xxxiii + 308. Price: US $3.00 per volume.

Volume I comprises a summary and conclusions, the long-term outlook for demand, production and trade in agricultural products, and projections by commodity groups. Volume II consists of methodological notes and a statistical appendix.

(vi) **The State of Food and Agriculture 1967.** 1967. Publication No. C67/4. pp. viii + 202. Price: US $5.50.

This report includes a world review and outlook for agricultural production and trade in 1967, farm prices and incomes, agricultural policies and development programs in various regions, as well as an examination of incentives and disincentives for farmers in developing countries.

OTHER PUBLICATIONS

Not available from Economics Branch.

Saskatchewan Farm Business Summary 1966, Economics and Statistics Branch, Saskatchewan Department of Agriculture, Regina. July, 1967. Extension Report No. 13. pp. 40.

An analysis of 1966 results from 346 farm records provided by members of Saskatchewan Farm Management Clubs.

The Feasibility and Consequences of Expanding Fluid Milk Distribution Areas, Macdonald, A. D. and W. R. Redelmeier, Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture and Food, Toronto. June, 1967. pp. iii + 55.

This study examines changing conditions in the dairy industry at the distribution, production and consumption levels; weaknesses in the present dairy situation; distribution area legislation in Canada, the United States and elsewhere, and the need and consequences of larger distribution areas.

Asparagus in Ontario, Production Costs, Returns and Management Practices 1962-1964, Walter, H. L., Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture and Food, Toronto. August, 1967. pp. iii + 36.

A study of asparagus production and returns based on 223 crop records collected in the Essex County, Central and Collingwood areas of Ontario.

Soybean Production, Production Costs, Returns and Management Practices in Southwestern Ontario, 1957-59-65, Abraham F. R. and G. A. Fisher, Farm Economics, Co-operatives and Statistics Branch, Ontario Department of Agriculture and Food, Toronto. August, 1967. pp. 33.

This report presents the results of a study of soybean production, based on data from 300 records of farmers in the Essex, Kent, Elgin, Middlesex and Lambton counties of Ontario.

Performance of the Hog Marketing System in Alberta, Manning, Travis W., Department of Extension, University of Alberta, Edmonton. July, 1967. Agricultural Economics Research Bulletin 4. pp. 26 + 3 (abstract).

A study, sponsored by the Meat Industry Co-ordinating Committee of Alberta, to measure the performance of the hog marketing system and to evaluate various alternatives for improving market performance. The report is accompanied by an abstract containing a summary and conclusions.

Working Conditions in Canadian Industry 1966, Report No. 10, Economics and Research Branch, Canada Department of Labour, Ottawa. March, 1967. pp. ii + 211.

This report publishes the results of the annual survey of working conditions, conducted at May 1, 1966 by the Economics and Research Branch, and includes data obtained from the slaughtering and meat packing, grain mill products, bakery products and dairy products industries.

Economics of Strawberry Production in Nova Scotia, Gervason, Paul and Robert S. Eaton, Nova Scotia Department of Agriculture and Marketing, Truro. May, 1967. pp. ii + 22.

A study of production, costs and profits of strawberry growers in Nova Scotia, based on information obtained in 1966 from 35 farms in 12 counties in that province.

STATISTICAL APPENDIX

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1966-67

Commodity, grade and market	1966			1967			
	Average	Sept.	Oct.	July	Aug.	Sept.	Oct.
				dollars per cwt.			
CATTLE (weighted average prices at public stockyards)							
Good slaughter steers							
Toronto	25.85	25.97	26.50	27.96	28.26	28.60	28.74
Winnipeg	25.15	24.88	24.98	26.67	27.77	28.57	28.47
Calgary	24.50	24.11	24.22	25.84	26.21	27.78	27.85
Good feeder steers							
Toronto	27.70	27.34	28.00	29.50	29.50	29.50	28.53
Winnipeg	25.55	25.42	24.33	26.98	26.93	26.92	25.96
Calgary	24.90	24.72	25.00	25.94	25.98	27.12	27.14
Good and choice veal calves							
Toronto	34.95	34.42	34.50	35.14	33.63	32.30	33.66
Winnipeg	34.35	35.01	34.41	36.47	36.98	38.05	36.30
Edmonton	28.20	25.51	25.04	30.07	28.91	26.88	23.94
HOGS (weighted average prices at public stockyards, Grade A dressed)							
Toronto	35.90	33.92	33.94	30.44	30.26	30.08	29.23
Winnipeg	34.45	33.68	32.12	27.82	28.46	28.65	27.87
Calgary	33.50	32.71	32.69	26.61	26.76	26.77	26.17
LAMBS (weighted average prices at public stockyards, Good lambs)							
Toronto	26.50	22.99	22.64	33.46	29.51	26.59	25.27
Winnipeg	21.85	19.19	20.17	26.40	24.58	20.36	20.00
Calgary	22.00	18.17	18.61	22.97	21.22	18.71	19.53
FLUID MILK (f.o.b. factory)							
Halifax	6.00	6.10	6.10	6.10	6.45	6.45	6.45
Montreal	5.41	5.55	5.55	6.00	6.00	6.00	6.00
Toronto	5.52	5.75	5.75	6.10	6.10	6.10	6.10
Winnipeg	5.34	5.48	5.48	5.97	5.97	5.97	5.97
Vancouver	6.59	6.69	6.72	7.02	7.04	7.08	7.09
MANUFACTURING MILK (average farm value)[a]							
Nova Scotia	2.94	3.08	3.03	3.18	3.18	—	—
New Brunswick	3.19	3.28	3.22	3.12	3.12	—	—
Quebec[b]	3.08	3.07	3.12	3.26	3.28	—	—
Ontario[c]	3.14	3.12	3.24	3.28	3.28	—	—
British Columbia	3.24	3.28	3.28	3.40	3.40	—	—
				cents per lb.			
BUTTERFAT (for butter, average farm value)[a]							
Prince Edward Island	65.4	66.0	67.0	67.5	68.0	—	—
Quebec[b]	82.9	82.8	81.5	89.3	89.5	—	—
Ontario[c]	75.7	76.3	77.5	81.4	81.4	—	—
Saskatchewan	61.4	60.8	61.6	62.9	62.9	—	—
British Columbia	78.9	82.0	82.8	85.8	85.8	—	—
				cents per doz.			
EGGS (average paying prices at registered grading stations, Grade A Large)							
Halifax	44.6	51.8	55.3	29.8	37.2	39.5	40.2
St. Anselme	45.5	54.8	54.8	29.2	37.9	37.0	38.3
London	45.4	53.1	53.8	28.5	35.1	35.2	36.0
Winnipeg	38.1	42.2	45.1	24.6	29.1	30.0	27.9
Vancouver	39.9	45.0	41.1	28.5	32.4	31.0	28.4
				cents per lb. live			
BROILERS (average prices paid to growers No. 1 grade chicken under 5 lbs.)							
Toronto	20.6	20.5	20.5	19.5	19.3	19.0	19.2
Edmonton	21.8	21.9	21.5	20.2	20.2	20.2	20.8
TURKEYS (average prices paid to growers, No. 1 grade, 12-20 lbs.)							
London	25.4	25.0	25.5	23.0	23.1	24.0	24.9
Edmonton	25.8	25.4	25.5	—	25.0	25.0	25.5

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1966-67 (Continued)

Commodity, grade and market	1966-67 Crop Year Average	1966 Sept.	1966 Oct.	1967 July	1967 Aug.	1967 Sept.	1967 Oct.
			dollars per cwt.				
POTATOES (Can. No. 1 Table, average prices to growers)							
Prince Edward Island	1.21	1.40	1.39	1.50	1.90	1.20	1.37
New Brunswick	1.00	1.12	1.19	0.85	1.33	1.03	1.38
Southwestern Ontario	1.70	1.85	1.87	2.00	1.88	1.92	1.97
			cents & eights per bu.				
EASTERN GRAINS							
Oats (Ont. No. 2 White, f.o.b. shipping points)	82/2	78	78	85	85	85	85
Barley (Ont. good malting, f.o.b. shipping points)	145	145	145	145	145	145	145
Corn (Ont. No. 2 Yellow, f.o.b. Chatham, 15% moisture, in carlots)	152/6	157/2	146/2	154/6	148/2	149/2	135/2
Soybeans (Ont. No. 2, f.o.b. Chatham)	306/6	327	310/5	300	296/7	295/1	288/6
WESTERN GRAINS (basis in store Fort William/Port Arthur, less freight and elevator handling charges)							
Red Spring Wheat (No. 2 Nor.)							
Winnipeg	195/6	196/2	195/2	190/6	188/1	178/5	180/6
Regina and Edmonton	192/2	192/6	191/6	187/2	184/5	175/1	177/2
Durum Wheat (No. 1 C.W.A.D.)							
Winnipeg	213	213/5	214/2	209	218/5	218/7	214/2
Regina and Edmonton	209/4	210/1	210/6	205/4	215/1	215/3	210/6
Feed Wheat							
Winnipeg	177/3	175/5	177/2	174/6	172/5	163/5	177/5
Regina and Edmonton	173/7	172/1	173/6	171/2	169/1	160/1	174/1
Oats (No. 1 feed)							
Winnipeg	79/4	81/3	81/1	79/7	82/4	83/1	82/2
Regina	77/4	79/3	79/1	77/7	80/4	81/1	80/2
Edmonton	75/4	77/3	77/1	75/7	78/4	79/1	78/2
Barley (No. 1 feed)							
Winnipeg	117/1	123	121/5	115/7	116/5	113/3	111/5
Regina	114/1	118/1	118/6	113	113/6	110/4	108/6
Edmonton	111/2	115/2	115/7	110/1	110/7	107/5	105/7
Rye (No. 2 C.W.)							
Winnipeg	125/2	122/6	117/6	129/4	122/7	118/1	118/5
Regina	121/6	119/3	114/3	126/1	119/4	114/6	115/2
Edmonton	118/5	116/1	111/1	122/7	116/2	111/4	112
Flaxseed (No. 1 C.W.)							
Winnipeg	291/3	290/4	283/4	325/2	340	329/6	324/2
Regina	288/1	287/2	280/2	322	336/6	323/6	321
Edmonton	284/5	283/6	276/6	318/4	333/2	317/6	317/4
Rapeseed (No. 1 C.W. basis in store Vancouver)	278/1	274/2	265/6	270/7	257/6	237/6	231/3

[a]Since the average farm values for manufacturing milk and butterfat published by the Dominion Bureau of Statistics (D.B.S.) do not include the Federal subsidies as of April 1, 1966, it is necessary to add, during the 12-months' period ended March 31, 1967, the Federal payment of 85¢ per 100 pounds of milk testing 3.5% butterfat to obtain the full returns to producers. Ten cents were retained for export aid. The net payment of 75¢ per cwt. was made directly to farmers, at the equivalent rate of 21.43¢ per pound of butterfat. Since the end of the dairy year, a rebate of 2.7¢ per cwt. from the export assistance holdback has been paid to dairy farmers.

Federal subsidies for the 12-months' period April 1, 1967 to March 31, 1968 amount to $1.21 per cwt. of milk testing 3.5% butterfat, of which 11¢ are retained for export aid. The net payment per cwt. is again made directly to producers at the equivalent rate of 31.42¢ per pound of butterfat.

[b]In the Province of Quebec, and beginning April 1, 1966, full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote [a]), plus a payment made by the Quebec Government. This payment is made on butterfat at the rate of 5¢ per pound from April 1 to September 30 and at the rate of 10¢ per pound from October 1 to March 31. Prior to April 1, 1966, this payment, which began in October, 1964, was made through factories and was part of the producer's farm value. It terminated on March 31, 1967.

[c]In the Province of Ontario, and beginning October 1, 1966 until March 31, 1967 full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote [a]), plus a payment made by the Ontario Government. The payments amount to 25¢ per cwt. (7.14¢ per pound butterfat) of manufacturing milk and secondary and excess fluid milk delivered to plants, basis 3.5% butterfat. For all cream grading Special and/or No. 1, the payment is 10¢ per pound butterfat.

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OUTLOOK 1968

The charts which appear in this chapter were part of the material prepared for the Federal-Provincial Agricultural Outlook Conference, held in Ottawa, November 27 and 28, 1967. The major part of the material was published in CANADIAN FARM ECONOMICS, Volume 2 Supplement, December 1967.

THE WORLD WHEAT MARKET

World wheat production increased from 8 billion bushels in 1959-60 to a record level of 11.2 billion bushels in 1966-67, or an average increase of 5.7 per cent per year during the period. Although the upward trend has been very consistent, there has also been a regular alternation from year to year of successive increases and decreases in total production (Figure 1).

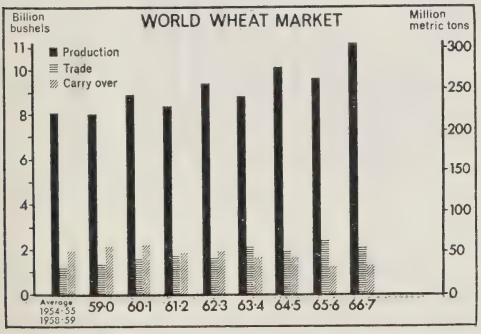


FIGURE 1

There has also been an upward trend in the level of world wheat trade which nearly doubled from 1.3 billion bushels in 1959-60 to 2.3 billion bushels in 1965-66, (although the level declined again in 1966-67 to a volume of 2.0 billion bushels,) an average annual increase of 7.5 per cent.

Until 1962-63, the carryover volume of stocks at the end of a crop year was normally greater than the trade during the year. However, with increased trade, and despite higher production, year end stocks since 1963-64 have been less than a one year's trade supply.

The outlook in 1967-68 is for a slight reduction from the previous year in total world production to about 10.6 billion bushels. World trade in wheat is also forecast to be down from 1966-67, to about 1.8 billion bushels, and total carryover stocks at the end of the 1967-68 crop year will likely rise slightly to about 1.4 billion bushels. The outlook for 1967-68 is for a reversal in the trends of world wheat production, trade and carryover that have prevailed since 1959-60.

CANADIAN WHEAT EXPORTS

Total exports of Canadian wheat and flour averaged about 280 million bushels during the four years ending in 1959-60. During this period, roughly 80 per cent of the exports went to developed countries, such as Britain and Western Europe and Japan, 4 per cent to Communist Bloc countries, and the remainder to the developing countries in Asia, Africa and South America. From 1960, there was an increase in exports when Communist China entered the world wheat market, thus raising Canadian exports to 340 million bushels.

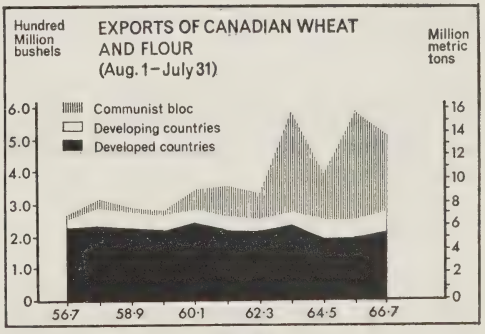


FIGURE 2

During the period 1963-67, a major change in the structure of Canadian wheat exports occurred. The total rose to an average of 520 million bushels. The large increase was due entirely to an expansion of exports to the U.S.S.R., China and Eastern European countries, while a slight reduction in exports to developed countries was offset by an increase in shipments to developing countries. Exports to the Communist

countries represented slightly more than 50 per cent of the total, but the market has been and continues to be one of uncertainty as the annual fluctuations in commitments have been largely dependent, in the main, on the relative size of wheat supplies in the U.S.S.R.

Evidence points to a general decline in exports to Communist countries in 1967-68, a slight drop in exports to developing countries and a steady market in the developed countries. Total wheat and flour exports seem unlikely to exceed 400 million bushels.

THE CHANGING STRUCTURE OF THE DAIRY INDUSTRY IN CANADA

Great changes have occured in the structure of the dairy industry in Canada since 1951. The number of farms keeping milk cows in 1966 totaled 222,000 which was slightly less than half the 455,000 recorded in 1951 (Figure 3). The average herd size doubled

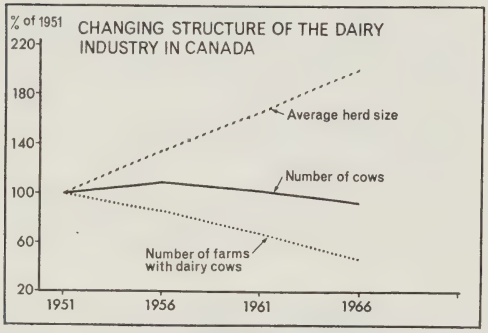


FIGURE 3

during the 15-year period, increasing from 6 cows in 1951 to 12 cows in 1966. Milk cow numbers, however, decreased from 2,908,000 head in 1951 to 2,677,000 head in 1966.

EGG PRODUCER PRICES AND MARKETINGS

While egg marketings rose sharply in 1967, egg prices to producers declined even more steeply (Figure 4). Prices to producers for all grades marketed at registered stations in Canada in 1967 averaged 28.4 cents a dozen, down by 11.0 cents or by 28 per cent from the 1966 average price of 39.4 cents.

The drop in price was entirely due to increased egg production in North America in 1967. In Canada, egg marketings at registered stations totaled 8.5 million cases (30 dozens per case) in 1967, up by 1 million cases or by 13 per cent from the volume of the previous year.

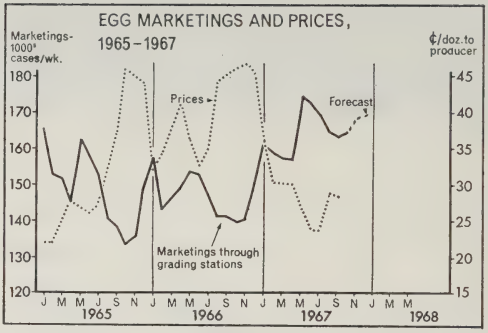


FIGURE 4

CONSUMPTION OF POULTRY MEATS

Per capita consumption of poultry meat in Canada rose to an estimated 41.3 pounds in 1967, up by 1.7 pounds from the level of the previous year (Figure 5). The rise was entirely due to further gains in the popularity of broiler chickens and turkeys.

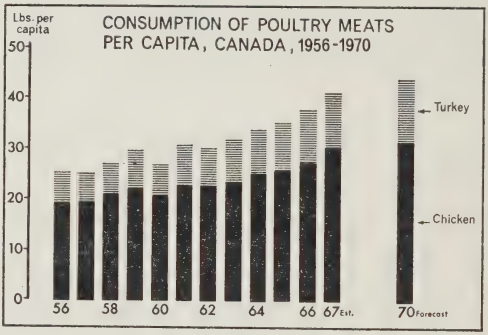


FIGURE 5

Consumption of chicken advanced to an estimated 29.8 pounds per capita in 1967 compared with 28.7 pounds in 1966. Broiler chicken consumption, which accounts for an increasing share of overall usage, rose to 20.2 pounds per capita in 1967 from the previous year's level of 19 pounds.

Turkey consumption in 1967 reached 11 pounds per capita, up by 0.6 pounds from the 1966 level.

FALL POTATOES

The general upward trend in total production of fall crop potatoes in Canada and the United States is largely the result of increased United States output. During the period 1956-67, there was an increase in Canadian output, but the rise in United States production was of the same order as the total Canadian crop (Figure 6).

The close inter-relationship of the markets for fall crop potatoes grown in the two countries is indicated by the correlation evident between changes in prices to growers from year to year (Figure 7).

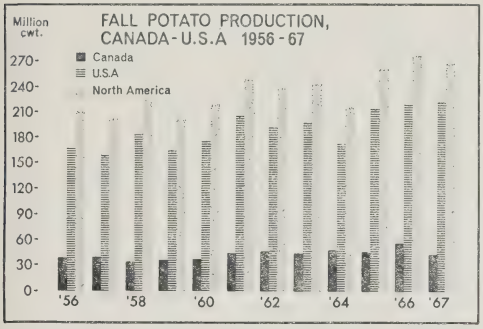


FIGURE 6

Fall potato production is increasing at the rate of 5 or 6 million hundredweight a year. A corresponding growth in demand may be inferred from the observation that where two years have similar sizes of crop,

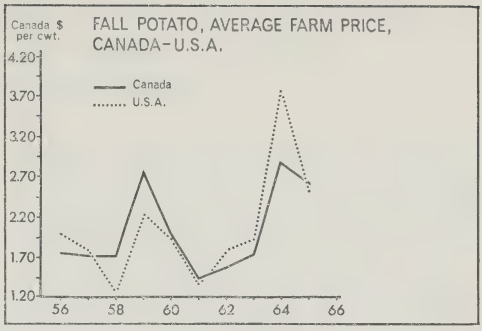


FIGURE 7

the more recent year shows a higher price. Examples include 1957 and 1959, or over a longer period, 1958 and 1964. The lowest price shown during the period 1956-67 was for 1961 which had a very large crop. However, this crop was exceeded in 1965, yet the price that year was substantially higher than in 1961.

The accompanying charts demonstrate the significance of the close relationship between size of production and level of prices in both countries.

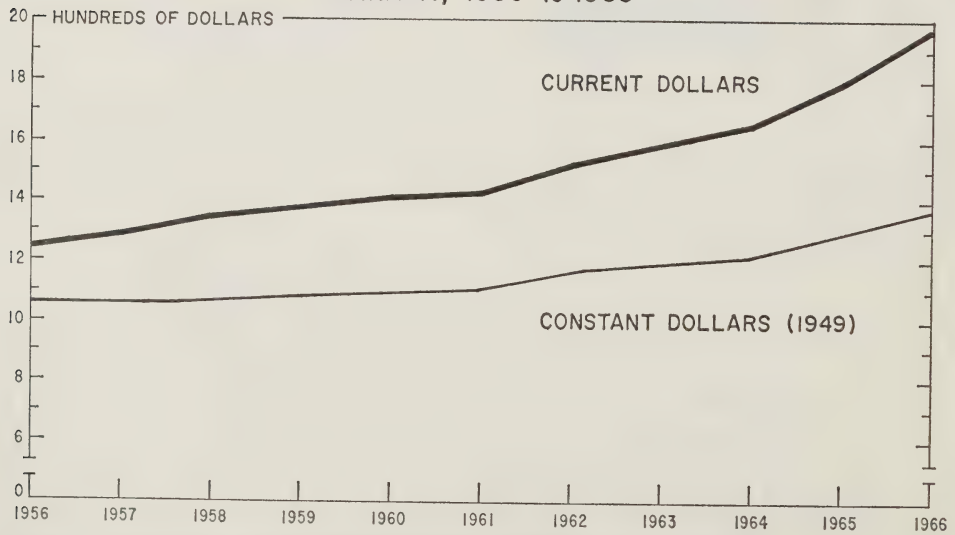
TRENDS IN THE PROCUREMENT AND MERCHANDISING OF FOOD PRODUCTS AND THEIR IMPLICATIONS FOR PRODUCERS AND CONSUMERS(1)

"Trends in the procurement and merchandising of food products and their implications for producers and consumers" is an appropriate subject for consideration and affords a welcome opportunity to communicate the "handwriting on the wall" as I see it.

Before I talk about the retailing end of the agribusiness structure, it would be helpful to review the elements of change affecting the frame of reference within which the food distribution industry operates. Changes in personal disposable income, in actual and real terms, over the past 10 years are shown in Figure 1. Per capita personal disposable income, in terms of actual dollars, has grown from $1,253 in 1956 to $1,972 in 1966—an increase of almost 64 per cent. In real terms, however, based on the consumer price index (and the deflation in the value of money is more than 20 per cent) income in terms of purchasing power has risen, by approximately 30 per cent in this 10-year period. This illustrates two things: an unquestionable increase in the general wealth of our population, and an unquestioned significant inflationary trend over the period we are discussing. The value of money has depreciated by some 2 to 2.5 per cent annually. Most of us are getting richer, but those of us whose incomes have not kept pace, are getting poorer. These two factors will have to be borne in mind when we discuss some of the developments having significance for producers and consumers in Canada.

Between 1956 and 1966, the number of working women in the labor force, age 14 and over increased from 1,346,000 to 2,227,000 (Figure 2). This represents an increase of approximately 65 per cent. Working women, relative to all women between these ages, have comprised an increasing proportion of the total, rising from about 25 per cent in 1956 to almost 33 per cent in 1966. That is, the proportion of women in Canada, age 14 and up, gainfully employed, has increased from one quarter to one third of all those women who might be termed, of working age, in Canada. The measure is not the best, but it is the best we have. Add another significant statistic: of these women in the working force (and figures are available only as far back as 1959) the number in the labor force who were married rose from 687,000 in 1959 to 1,160,000 in 1966. That is, the number of married women gainfully employed in our labor force has

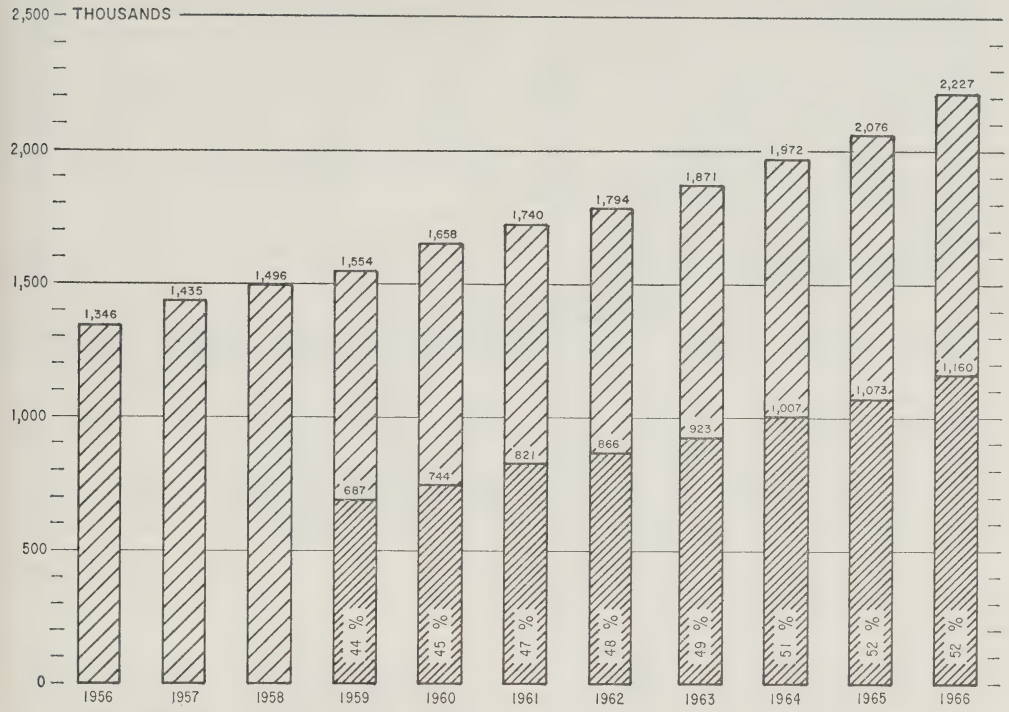
PER CAPITA PERSONAL DISPOSABLE INCOME, CANADA, 1956 to 1966



Sources: 1. Dominion Bureau of Statistics, National Accounts, Income and Expenditure, Catalogue No. 13-201.
2. The Consumer Price Index for Canada was used to convert current dollars to constant dollars (1949).

FIGURE 1

WOMEN IN THE LABOR FORCE: TOTAL AND PROPORTION MARRIED, CANADA, 1956 to 1966



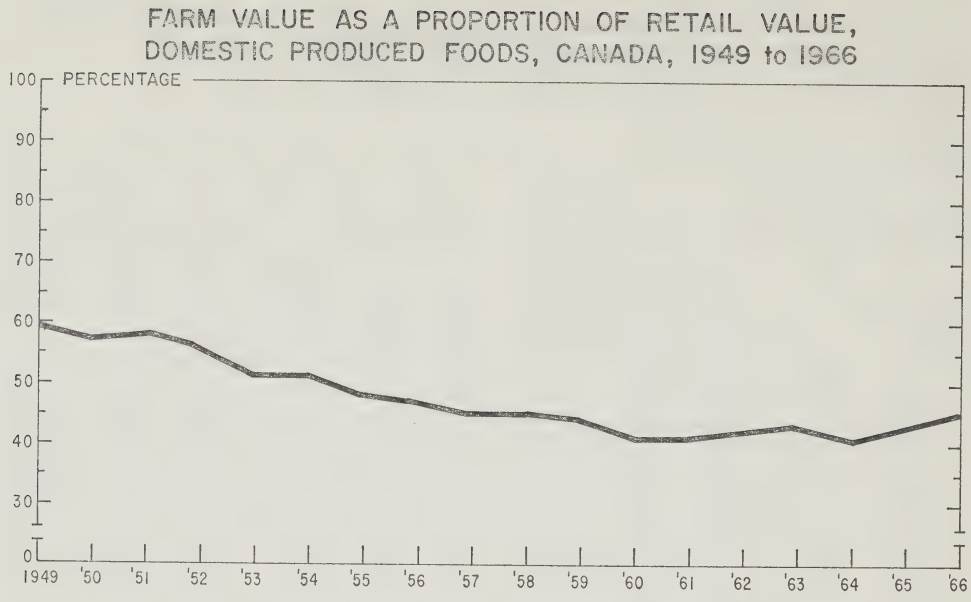
Source: *Dominion Bureau of Statistics, The Labour Force, Catalogue No. 71-001.*

FIGURE 2

nearly doubled in seven years. The proportion of working women who were married has increased from about 44 per cent to over 52 per cent of all working women. This increase, taken together with the greater percentage of women over time entering the labor force, indicates how substantially these numbers have increased. These changes have had a marked effect on how we, as a society, structure our lives, particularly in the urban Canada that this country has, by and large, become.

Another statistical series of interest is that of farm value as a proportion of the retail value of all agricultural products produced and sold in Canada (Figure 3). The proportion of retail value received by the agriculture industry has declined by about one third, from about 60 per cent to between 40 and 45 per cent between 1949 and 1966. This measure states, that for every dollar's worth of agricultural product purchased by consumers, the agriculture industry which used to receive about 60 cents, now receives between 40 and 45 cents. Experience in other countries, notably the United States, leads us to believe that the gradual extension of this downward trend must be expected to continue. This statistic of course says nothing about absolute levels of farm income, and the increases in returns which have been achieved by producers on a per capita basis as the market has grown while producer numbers have declined.

So, here we have some of the important manifestations of developments in our economy. I could go on and provide statistics relating to increasing ownership of all sorts of home appliances, cars, etc., but, for our purposes, the available statistics clearly provide a message. The level of living in Canada is improving, not without significant losses as a result of inflation, but improving nevertheless. This increase in wealth has been compounded on a household basis by the significant increases in the number of working women, particularly those who are married and partners in the family as an economic unit. This development has added significantly to the disposable income available to these households.



Source: *Economics Branch, Canada Department of Agriculture.*

FIGURE 3

What have these developments meant for the various elements of the food distribution apparatus?

For consumers, it has meant that their desires, in terms of goods and services are more likely to be realizable with the current standards of living than they were 10 years ago. For retailers, it has meant that a great many more women are able to gratify their desires in the form of labor-saving devices and labor-saving foods than there could 10 years ago. Not only that, but significant changes were required in the structure of the retail vehicle and the form in which food was presented and marketed if homemakers were to pursue satisfactorily both their emancipation from much of the drudgery of housework, and the development of their capacities as more direct contributors to the gross national product as members of the labor force.

If a housewife employed outside the home was to be able to provide her family with the foods that most of us raised at home with mother had become accustomed to, some more efficient means of preparing them and making them easily available had to be found than existed for the housewife's mother.

Let me be a little bit more specific as to the effect of these structural changes in our economy as they apply to the retail food distribution industry, those who service it and those who are served by it.

The creation of effective demand for wider food variety, specialty products of a ready-to-eat nature, together with the success of all manner of products engineered to minimize the housewife's work, can be associated, in part, with the continued rapid expansion of a consumer food distribution system based on the supermarket type of operation. The efficiencies of the system, relative to previous approaches, and the consequent volume markets, made economic the development and merchandising of these new products. The existence of economic concentrations represented by the chain groups, in turn made possible the availability of investment capital and the channelling of capital resources into the kind of facilities which made possible the mass merchandising of products for which there existed a latent demand. The sensitivity of these organizations in reacting to this latent demand, and making it effective, has, in turn, had the effect of reinforcing their success. An analysis of distribution structures, and consumption patterns in a number of European countries, appears to bear out the validity of this analysis of the developmental nature of the sequence of events I have described. Be that as it may, the transition from housewife to working mother has been made much easier.

This specific element has not, of course, been the only operative force.

This development has been given greater impetus by rising educational levels and a greater range of interests on the part of homemakers generally. The great demand is for leisure time, self-expression and productive activities involving personal and intellectual growth. Industry has been quick to seek to gratify these desires as evidenced by the whole range of highly manufactured products, from boil-in-bag and bake-in-package, to potato crystals and TV dinners, providing women with more of the freedom which they most strongly desire.

The more highly manufactured the product the smaller is the proportion of the retail price residing with the farmer. But we must not let this lead us to drawing the wrong conclusions regarding effects on producers. Our foregoing discussion has not sufficiently emphasized the wider markets which have been created for agricultural products in new forms. So that, although the share of the pie is smaller, the pie is much, much larger, more than regaining markets through the inevitable development of convenience foods, which might otherwise have been totally lost through changing consumption habits. It must be our challenge to organize so that the benefits from these changes will reside with Canadian agricultural producers rather than others.

This brings me to another aspect of these developments which deserves more emphasis.

The changes in the structure of the retail distribution industry, the growth of economic concentrations in retailing which have made possible the development of the supermarket as we know it today has had some important implications for agricultural producers. What I am talking about is the requirement for bulk handling of those agricultural products appearing more or less in their natural state for consumption by consumers. During the last five years, for which consistent figures are available, that is, from 1961 to 1966, corporate chain sales have advanced by almost 40 per cent. Taking these sales together with those of voluntary chains, almost 85 per cent of all grocery and combination store sales in 1966 are accounted for (*2*).

These figures indicate the magnitude of the change which has occurred as far as the procurement side is concerned. These figures speak of bulk-buying and facilities for handling great volumes. With the advent of large voluntary chain groups, even the purchasing of the smaller independent operators is channelled through a bulk purchase. The cost of dealing with individual small suppliers in such a system, is relatively high. The absence of standardized and rigid grading for the handling of bulk shipments becomes expensive. The absence of sufficient facilities to prepare and package products so as to maximize appeal and shelf-life adds to losses and distribution cost. The cost of dealing with small individual suppliers becomes a major obstacle in this system. Bigness on the retail side creates its own countervailing power by its requirement to deal with bigness on the supply side.

In this regard, the agricultural industry infrastructure in some parts of our country, leaves something to be desired. In some parts of our country, there is insufficient investment in producing areas for facilities to package the product for storage and maximum storage life. In some parts of our country, there is not sufficient provision in producing areas for rigid grading procedures. The marketing system will make allowance for these gaps in the institutional structure of the agricultural industry, but it will also exact a price. These factors can lead to producer prices determined on the basis of the lowest common denominator. If quality is unreliable and losses are increased, the producer price will take account of it. If products are not conditioned for maximum storage life, and losses are increased, the producer price may allow for it. If unprepared product must be transported, and urban labor must condition and package the product, the price to producers and consumers must allow for it, and higher prices for products not handled satisfactorily can rebound on producers through reduced markets.

If all these conditions exist, then the use of domestic products becomes full of obstacles. All these arrangements for domestic supplies must often be made by dealing with 150 or 200 individuals, each with their own circumstances, problems, grade standards and product conditions. Put all this against the fact that one call to a broker or two can fulfill all needs based on standardized known conditions. Although there has been some improvement in recent years, indeed much improvement, there remains much to be improved.

We in the retailing industry are aware of, and share the desire of producers, government and even many consumers, to maximize the consumption of Canadian products from available supplies. We believe that the maximum possible use of domestic products should be assured, but we recognize that there are obstacles to be overcome on the part of agriculture. These obstacles can be overcome by the agriculture sector, working with Government, and the retail industry, in a way which operates in the direction of providing Canadian products on a competitive basis, in the form required by our distribution system and desired by consumers. Once this is achieved, then invariably, wider markets become available not only locally, but in other regions and sometimes in other countries.

The use of domestic and local product, solely,—can be legislated—can be assured—through the creation of artificial barriers, thus avoiding the need to develop the marketing institutions our distribution system requires to operate efficiently. We believe such

measures are against the long term best interests of Canadian producers as well as Canadian consumers. Aside from the sacrifice of potentially larger markets, at home and abroad, the higher costs to consumers which must inevitably follow, have a way of exacting a cost to producers in terms of lost markets, and shifts in consumption patterns that are difficult to reverse once they come into being.

We must recognize the challenge to agriculture of the current economic environment. In a society where we are on the verge of computerizing the complete movement documentation of goods from manufacturer to consumer, all parts of the distribution framework must examine their preparedness for the new era.

Last week, a machine began to do the routine ordering for a commodity area in a group of our stores, based on a recollection of historical performance unlikely to be equalled by the normal human. Based on success, the rest of the stores will follow and, no doubt, other commodity areas as well. Efficient service to consumers demands this mechanization of human effort. The day will come when machines will talk only to each other from one end of the distribution cycle to the other, without the interference of human beings. The elements of the system can be seen today. Representatives of the agriculture sector must play a more aggressive, statesmanlike, role in coming to grips with these realities as equal partners in the process.

Too often, the development of the services required to deal with our mass distribution environment is left to the industry side to provide. Innovations in the use of agricultural products are developed by an industry integrated backward, rather than an agriculture integrated forward. Promotion of agricultural products in this country is left mainly to others in an environment thick with messages to the consumer as to where to spend her money. In an environment rich with opportunities for group action and institutions sanctioned by law to be used as vehicles for such action, attention appears to be concentrated too often on achieving short run gains at the expense of the consumer. The advantages of developing marketing facilities in producing areas, minimizing marketing costs, achieving premium prices, increasing the agricultural sector's share of retail values, and providing transitional employment for rural manpower freed by agriculture's efficiencies, is an area of endeavor worthy of the best efforts of Canadian agriculturists.

There is another merchandising development of great significance to consumers and producers as well, that bears emphatic mention. What I have in mind are what are called in the trade, private labels. A private label is a product either manufactured by a retailer, or manufactured and packaged to the retailer's specifications. These products, which are advertised as equal to or better in quality than the brands with which they compete, are made available to consumers at a lower price. I made an analysis of comparative prices for these products. I found that, on a simple average basis, a saving of 28 per cent was available to consumers compared with comparable manufacturers' brands available in the chain I studied. When verifying the significance of this figure, I found that the savings on the major volume items most often purchased by consumers would be about 32 per cent relative to manufacturers' brands. Significant changes in the farm share of retail value would be effected by such lower prices.

Such a merchandising approach, as well as providing savings to consumers, must, necessarily, widen substantially the market for the products of Canadian producers. This device by itself does not have the effect of increasing prices to producers, at least in the short run, but they provide very substantial increases in the volume which can be disposed of at these price levels. This merchandising technique has the effect of substantially reducing the distribution margin in the overall retail price. It, consequently, is something which should be greatly favored by producers as well as by consumers. The importance of this merchandising approach as an anti-inflationary device is as yet little appreciated. The impact of the introduction of these products on the prices of competing items produced by manufacturers is often in the direction of reducing consumer cost generally through all outlets in the trading area. The increasing sophistication of the consuming public, a product of greater awareness and rising educational levels, is one of the reasons for the substantial successes of this merchandising technique, because consumers recognize and are willing to pay only for real differences in the products which they purchase.

Another development involving price discounts at the retailing level, is probably worthy of some note. In our meat departments, we have witnessed in recent years, a significant reaction probably resulting on the one hand from inflationary pressure on real income, and from the red brand beef prices we have been experiencing on the other. The outlook report for meat products will probably bear out the shift which has been taking place toward other meats than beef. A change of another kind, however, has been approaching significant proportions. In stores where commercial grade beef is freely available and promoted, very significant increases have occurred in the volume of movement. In some cases, such movement is now equal to or exceeds the volume of red brand beef sales. Over the past three years, the volume of commercial meat sales has shown significant increases each year, while movement of red brand beef

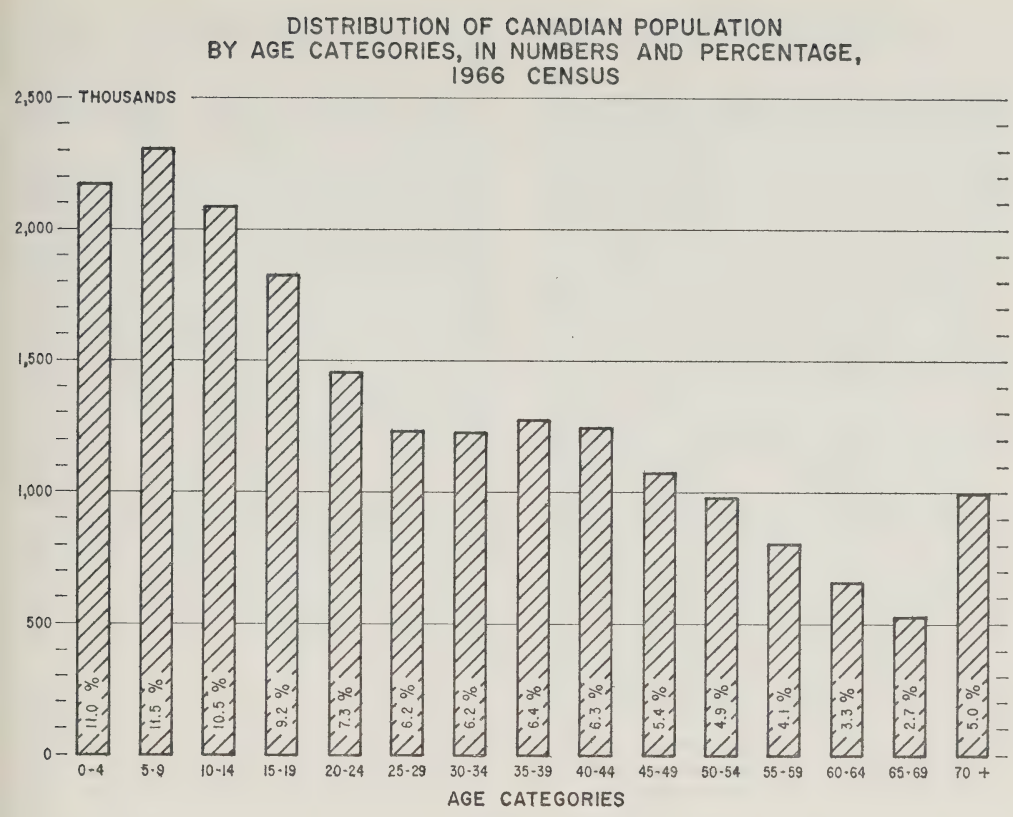


FIGURE 4

has been stagnant or declined. While the movement of red brand, relative to commercial, is still five or six to one, this trend is continuing, and current price differentials are encouraging this development. If this change follows the pattern presented by margarine versus butter in the past, it will, possibly, be here with us to stay even when price differentials moderate. Retail organizations, on their part, are organizing to cater to this segment of demand for beef on a continuing basis.

Before I close my remarks, I would like to discuss briefly the shape of things to come.

Let us take a look at the latest prospects related to population. Figure 4 shows the distribution by age groups of the Canadian population. Particular note should be taken of the 15 to 19 and the 20 to 24 year age groups, based on the 1966 census. As the Minister of Finance recently noted, these classes indicate that the number of individuals in the 20 to 24 year group will increase by about one third during the 1965 to 1970 period, and by another 15 per cent in the five years following. This is the age group from which is derived the largest part of new family formation. The configuration indicated will provide a substantial increase in family formation and, if nature takes its course, fairly shortly afterwards, substantial additions to the Canadian population. These are the graduates of the massive teenage market we have been hearing so much about and they are on the verge of becoming substantial contributors to the growth of Canadian population, and new consumers of all manner of products. They will provide a new and dynamic element in the consumption pattern in Canada, and provide Canadian producers with rapid increases in the domestic market for Canadian production.

FOOTNOTES

(*1*) A paper by M. M. Roytenberg, Steinberg's Limited, presented to the Federal-Provincial Agricultural Outlook Conference in Ottawa, November 28, 1967.

(*2*) This estimate of the share of sales is based on trade data.

THE OUTLOOK FOR POULTRY MEAT IN CANADA TO 1980

M. K. Emmery

This article summarizes the analytical approach and major findings of a study of the medium and long-run outlook for the consumption, production, and prices of poultry meat. A full description of the method of analysis, the choice of data, and the final projections of poultry meat quantities and prices has been published recently in an Economics Branch bulletin (*1*).

The remarkable expansion in the post-war period in the production and consumption of poultry meat is well known to producer and consumer alike. This growth was associated with marked improvements in production efficiency and the quality of the final product, and with steep declines in farm and retail prices for poultry. For many years the Canadian people have consumed nutritionally adequate diets and growth in food consumption comes almost entirely from the growth in population. Consumption of poultry meat is an exception. Between 1949 and 1966, total food consumption, on a weight basis, increased at 2.6 per cent a year (*2*), compared with the average annual growth in population of 2.4 per cent. The composition of the food basket changed in favor of more meats, fruits and vegetables, and against cereals, potatoes, eggs and dairy products. Consumption of all meats, including poultry, expanded at 3.7 per cent a year during the last 17 years. Poultry meat consumption, however, increased at 7.9 per cent a year, and its share of total meat usage rose from 10.5 per cent in 1949 to 21.0 per cent in 1966.

METHOD OF STUDY

The specific aim of the study is to make projections of the quantity produced and consumed, and retail and farm prices, during the years from 1967 to 1980 for (a) chicken and fowl and (b) turkey meat. Separate projections of demand and supply (at constant prices) are made on the basis of projected changes in the main factors affecting them, and the expected relationships between these factors and demand or supply. These estimates indicate whether an excess of supply over demand and a consequent price decline, or alternatively, an excess demand situation and rising prices, may be expected in the projection period. The equilibrium prices and quantities necessary for market clearance are estimated from a four equation model consisting of:

1. The quantity demanded expressed in terms of projected demand, retail price, and the price elasticity of demand.

2. The quantity supplied expressed in terms of the ratio of farm prices to projected costs of poultry production.

3. The relation between farm and retail prices.

4. The equilibrium condition of equality between quantity demanded and quantity supplied.

The data for the projections of supply and demand are primarily derived from an analysis of the contribution of each of the major causal factors to the observed growth in poultry meat consumption during the study period 1949-65. The contribution of each factor is measured by applying an estimate of the average behavioral relation between the factor and final demand or supply to the recorded change in the factor during the study period. Estimates of the behavioral relations on the demand side, that is, the income elasticity and the direct and cross price elasticities of demand, are taken from other empirical studies and adjusted, where necessary, so that the sum of the effects of all factors is equal to the observed growth in consumption. On the supply side, estimates are made of the behavioral relation between the production of chicken and fowl, and turkey and their respective profitability ratios—a profitability ratio being the ratio of farm price to the cost of feed and chicks (poults).

Projections of population and income growth in Canada to 1980 have been made by the United Nations, the Economic Council of Canada and by two Royal Commissions; median values of these four separate estimates are adopted for this study. The other major causal factors, particularly the costs of poultry meat production, are projected on the basis of past trends, research findings, and other indicators. The behavioral relations estimated for the study period are assumed to remain unchanged in the projection period, except for an expected change in the influence of the future growth in incomes.

RESULTS

Demand

The average growth rate in the demand for poultry meat at constant retail prices is projected to be 3.3 per cent a year during the 1967-80 period. The corresponding rate of growth in demand in the study period 1949-65 was 4.55 per cent a year. The expected slower rate of growth in demand in the projection period reflects a likely smaller growth in population, a sharp decline in the influence of income growth on demand, and little change in quality of product and methods of marketing.

Population growth is projected at 2.1 per cent a year during the 1967-80 period compared with the average annual growth of 2.4 per cent during the study period.

The growth in real incomes is expected to be higher in the projection period at 2.6 per cent a year than in the study period (2.2 per cent a year). However, the income elasticity of demand, reflecting the stimulus to retail demand from a given increase in incomes, is assumed to decline markedly from an average of 1.0 in the study period to 0.5 in the projection period (*3*). The high income elasticity in the past is thought to reflect the adjustment of consumers' expenditure patterns to the changes in the form, quality and presentation of poultry meat. The development of specialized meat birds, their sale at lighter weights, and in eviscerated (ready-to-cook) form, is believed to have attracted a larger share of consumers' incomes to poultry meat than if no change in the product had occurred. Some further improvements in quality and presentation of poultry meat may occur, but it is thought that their impact will be markedly less than changes in the past.

The effect on demand of the anticipated decline in the income elasticity more than offsets the projected higher growth rate in incomes during the 1967-80 period. The resultant growth in demand due to incomes, with other factors unchanged, is estimated at 1.3 per cent a year during the 1967-80 period, compared with 2.2 per cent a year during the 1949-65 period.

Measured in real, or constant dollar terms, the retail price of beef in 1964 and 1965 was practically the same as at the beginning of the study period, and consequently is not considered to have been a major factor affecting the total change in the demand for poultry. The retail price of pork, in real terms, fell about 10 per cent during this period and is assumed to have depressed very slightly the demand for poultry meat. The past trends to a moderate growth in the per head usage of beef and a slight decline in pork consumption per head are thought likely to continue, and it is therefore assumed that the influence of the competing meats on the demand for poultry meat to 1980 will be approximately the same as during the study period.

Supply

The threefold increase in production of poultry meat in association with a decline of one-third in farm prices during the study period indicates the occurrence of marked shifts to the right in the supply curve. These shifts largely reflect declines in production costs. During the decade of the fifties, a remarkable improvement occurred in the feed conversion ratio, together with substantial declines in the prices of feed and chicks. Since 1961, however, the feed conversion ratio has shown little change, feed prices moved upwards, and chick prices were stable. An estimated index of feed and chick costs for chicken and fowl production fell from 164 in 1949-50 to 91 in 1961-62 and rose to 104 in 1965-66. The trend in turkey production costs was similar, although the cost reductions in the fifties were smaller. The use of labor and floorspace per unit of output also declined sharply, but the prices for these inputs increased.

The large reductions in production costs in the past are unlikely to be repeated in the projection period. The feed conversion ratios are expected to continue to improve but at a diminishing rate, and their effect on costs per unit of output may be largely offset by higher feed prices. The index of feed and chick costs for chicken and fowl is projected to decline from 104 in 1965-66 to 96 in 1980, while the index for turkeys is expected to remain at close to its 1965-66 level.

The annual production of chicken and fowl, and turkey, during the study period was highly responsive to changes in their respective profitability ratios (i.e. the ratio of farm prices to production costs) in the previous year. However, the production response with respect to the profitability ratio is thought to have undergone several shifts. In particular, producers of chicken and fowl appear to have maintained a similar annual production response despite some longer-run downward shifts in unit profit margins. This likely reflects the growing importance of larger scale integrated enterprises which, through economies of scale, better management, and financial interests in feed and chick supplies and poultry processing, stood to gain by a more rapid growth in output than the smaller operators.

Two projections of the supply of poultry meat forthcoming at the projected levels of production costs, but at constant farm prices, are made under the assumptions of a "high" and a "low" production response. The supply of poultry meat under the "high" response, which corresponds to the response witnessed in recent years, is projected to expand at over 10 per cent a year, or at three times the expected growth rate in demand at constant prices. Under the "low" production response, the projected average growth in the supply of poultry meat, at 3.4 per cent a year, is close to the expected growth in demand. The growth in chicken and fowl supply under both responses is expected to be greater than for turkey due to a more favorable trend in the production costs for chicken and fowl.

Market Quantities and Prices

The real price of poultry meat at retail declined at an average rate of 2.4 per cent a year from 1949 to 1966. The decline in prices, in association with an estimated average price elasticity of demand of -1.3, would have increased the consumption of poultry meat, with other factors unchanged, at 3.1 per cent a year. This implies that poultry meat prices accounted

94765—2

for about two-fifths of the recorded 7.9 per cent a year growth in consumption. The price elasticity is assumed to have the same value (−1.3) in the projection period.

The decline in farm prices indicates a supply greater than demand during most of the study period. The main reasons why the excess supply situation persisted appear to be:

1. The declines in farm prices were largely matched by declines in production costs.

2. The price elasticity of demand was high (relative to most other agricultural commodities) and consequently a given price decline induced a substantial rise in demand (*4*).

3. The growth in large, integrated enterprises organized for rapid output growth.

4. The relatively free competition, particularly ease of entry, in the industry.

The excess supply situation, and the stimulus to poultry consumption from falling retail prices is likely to be much smaller, or non-existent, in the projection period for two reasons. First, any further declines in production costs are expected to be small, and second, competition may be restricted by the operation of production quotas by producer marketing boards.

The first set of projections of market quantities and prices is made under the assumption that the high production response of recent years will continue. This response, together with the likely slower growth in demand, would generate an excess supply situation and declines in retail and farm prices.

The quantity of chicken and fowl produced and consumed is projected to increase from 568 million pounds, eviscerated weight, in 1966 to 1,021 million pounds in 1980 at an average growth rate of 4.3 per cent a year. The associated total decline in farm prices during the period is estimated at 14 per cent. The quantity of turkey is projected to expand at 3.5 per cent a year from 213 million pounds in 1966 to 347 million pounds in 1980, but at the expense of a 4 per cent decline in farm prices. Per head consumption of chicken and fowl is projected to rise from 29 pounds in 1966 to 39 pounds in 1980, and turkey consumption to rise from 10 pounds to 13 pounds.

The growth in the quantity of poultry meat, and the corresponding price declines, are expected to be greater in the first five years than in the latter part of the projection period. The retail prices of poultry meat are expected to decline fractionally more than farm prices in absolute values, but markedly less in percentage terms; this implies a decline in farmers' share of retail values.

The projected declines in prices under the high production response are small in relation to those experienced in the past, but they are not matched by equivalent declines in production costs. Producers as a group, through their marketing boards, may attempt to avoid this price decline by restricting their production response.

The second set of projections under an assumed low production response indicates the likely growth in market quantities which could be achieved at market prices close to their 1966 levels. The "low" projections are for a 3.6 per cent a year increase in the quantity of chicken and fowl to 935 million pounds in 1980, in association with a 6 per cent decline in farm prices. Turkey production and usage is projected to increase at 2.6 per cent a year to 306 million pounds, in association with an 8 per cent increase in farm prices. Consumption per head in 1980 is projected at 35 pounds of chicken and fowl and 11.5 pounds of turkey.

IMPLICATIONS FOR PRODUCER MARKETING BOARDS

Broiler chicken marketing boards have been established in all provinces but Quebec, Manitoba, Newfoundland and Prince Edward Island, and turkey marketing boards are operating in British Columbia, Alberta and Saskatchewan. A major objective of the boards is to maintain a remunerative farm price by adjusting the growth in poultry meat supplies to the expected growth in demand. The boards have extensive powers to register growers, allocate production quotas, and in certain cases, to set minimum prices, but there are several important limitations to the extent that they can regulate total Canadian production.

First, the absence of marketing boards in Quebec and Manitoba, which contribute over a third of poultry production, and also the lack of co-ordination between the policies of the separate provincial boards, limit the present boards' control over national production. The second limitation to marketing board action is the threat of United States imports if Canadian prices are forced too high by production restrictions. The U.S. competition is desirable to the extent that it promotes increased production efficiency in Canada, and it protects the consumer from the high prices associated with low efficiency or monopoly pricing.

The above limitations do not imply that marketing boards cannot improve the flow of supply in relation to expected demand. The lower production projections provide an estimate of the long-run growth rate which producer marketing boards may plan for if they wish to equate supply and demand, and maintain farm prices at their 1966 level. A policy of restricting the "free market" production response, however, is desirable only if firstly, it can be achieved without inducing a large flow of imports, and secondly,

it does not raise the price to the final consumer through monopoly pricing, or discouraging maximum efficiency in the industry (*5*).

NOTES AND REFERENCES

(*1*) M. K. Emmery, *The Outlook for Poultry Meat in Canada to 1980. A Study of Factors Affecting its Supply and Demand*, Economics Branch, Canada Department of Agriculture, Ottawa, December, 1967.

(*2*) The measurement of food consumption in terms of weight neglects the trend to higher quality food items in the diet. An approximate measure of the change in the quantity and quality of food is personal expenditure on food, deflated by a retail price index for food—this increased at 3.5 per cent per annum between 1949 and 1965.

(*3*) The income elasticity is defined as the average percentage change during the study period in the weight of poultry meat purchased at retail, associated with a given percentage change in incomes, with the retail prices of all commodities held constant. The elasticity so defined provides a measure of the long-run income effect on the demand for a product of changing form and quality.

(*4*) Demand at retail is estimated to be price elastic (−1.3) but demand at the farm level is expected to be less elastic (probably less than unity) due to the presence of a constant absolute value component in farm-retail price spread.

(*5*) Production quotas may lead to sub-optimum efficiency by restricting the growth in output by the most efficient producers, and in the geographic areas with a comparative cost advantage, and conversely, by allowing low efficiency producers, or areas, to remain in production. The allocation of quotas should be based on some criterion of efficiency if this loss in industry efficiency is to be avoided.

THE ECONOMIC BASE OF THE CENTRAL BUTTE GRAIN-GROWING REGION OF SOUTH-CENTRAL SASKATCHEWAN

R. T. Miller, D. Zasada, J. W. Channon

A study of the Central Butte-Riverhurst-Main Centre region of south-central Saskatchewan was undertaken to catalogue the economic resources available. The study area comprises the farmland and surrounding communities serviced by 14 grain delivery points, of which Central Butte is the hub (Figure 1). The points are: Grainland, Riverhurst, Gilroy, Lawson, Central Butte, Mawer, Kettlehut, Thunder Creek, Halvorgate, Calderbank, Glen Kerr, Gouldtown, Main Centre, and Aquadell. The last point is now closed. These points lie within the rural municipalities of Maple Bush, Enfield, Vermilion Hills, Excelsior, and Morse. All are in Crop Districts 3AN or 3BN, and within Census Division 7. The area comprises 633 grain farms, totalling 504,000 acres.

The delivery point service areas have been mapped by the Economics Branch of the Canada Department of Agriculture and the Geographical Branch of the Department of Energy, Mines and Resources (*1*) from data made available by the Canadian Wheat Board. (This is the first time that this kind of work has been published.) These data made possible the accurate measurement of farm-to-elevator trucking distances.

CLIMATE

The study area is part of the large zone of Saskatchewan where the annual average precipitation is only 12 to 14 inches. Rainfall between May 1 and September 30 averages 8 to 10 inches, with 3 or 4 inches falling during the critical grain-growing months of June and July. These two months tend to be the wettest in terms of total rainfall and number of rainy days.

Meteorological data for the study area are scarce. Some information is available for the localities around Gilroy, Elbow and Tugaske, the last two points being just outside the boundary of the study area. These records indicate that the climate is continental, with extremes of summer heat and winter cold. In recent years the area has experienced a high of 103°F (August 16, 1961) and a low of –44°F (December 19, 1961). The mean annual temperature is 37°F; the mean annual maximum temperature is 48°F, and the mean minimum is 25°F. The frost-free period ranges between 100 and 120 days.

TOPOGRAPHY

The study area is situated in the transitional terrain of the Missouri Coteau that marks the boundary between the second and third prairie steppes. This escarpment follows a general north-westerly direction across the region, and the elevation of the land (1,500 to 2,500 feet above sea level) is greater west of the Coteau. There is a greater proportion of rough, rolling topography here than just east of the escarpment where the Regina Plains come to an end because of the Missouri Coteau. An important feature of the region is the deeply eroded right bank of the South Saskatchewan River, which lands are now much less discernible as the many gullies are filled with water backed up in the South Saskatchewan Reservoir, recently named Diefenbaker Lake. Drainage in much of the area may be considered excessive.

SOILS

The study area is almost all in the Brown Soil Zone (*2*). This is the most arid section of Saskatchewan and is characterized by short-grass prairie vegetation, the absence of trees, and the frequency of drought. The Echo and the Hatton Soil Associations are the major ones in the north, in the Riverhurst-Grainland-Central Butte area. The Haverhill Association is predominant in the southern part, in the area tributary to the grain delivery points on the Mawer to Main Centre branch line of the Canadian National Railways. A small part of the study area is in the Dark Brown Soil Zone.

Problems associated with the soils in the study area include: leaching; difficulty in maintaining adequate moisture for cultivation and crop growth, particularly in drought years; high cost of power requirements to maintain a good state of tilth; and difficult cultivation because of the hummocky and pitted land surface. The general fertility is satisfactory. The adverse physical features and the arid climate are the principal handicaps to agricultural use. On the clay loam soils wheat yields are satisfactory except in seasons of severe drought.

SOIL PRODUCTIVITY

Arability

Approximately two fifths of the land in the study area is submarginal, and therefore considered to be Class I (*3*). This is consistent with characteristics attributed to the Brown Soil Zone.

Class I land averages about 30 per cent arable and ranges from nil to 80 per cent. Inferior soil texture tends to be a characteristic of this class. Although Class I land is found in varying amounts throughout the region, it is most in evidence in the northern half of Municipality 164, south of Halvorgate. Here,

ELEVATOR SERVICE AREAS IN THE CENTRAL BUTTE GRAIN GROWING REGION OF SOUTH-CENTRAL SASKATCHEWAN, 1962-63

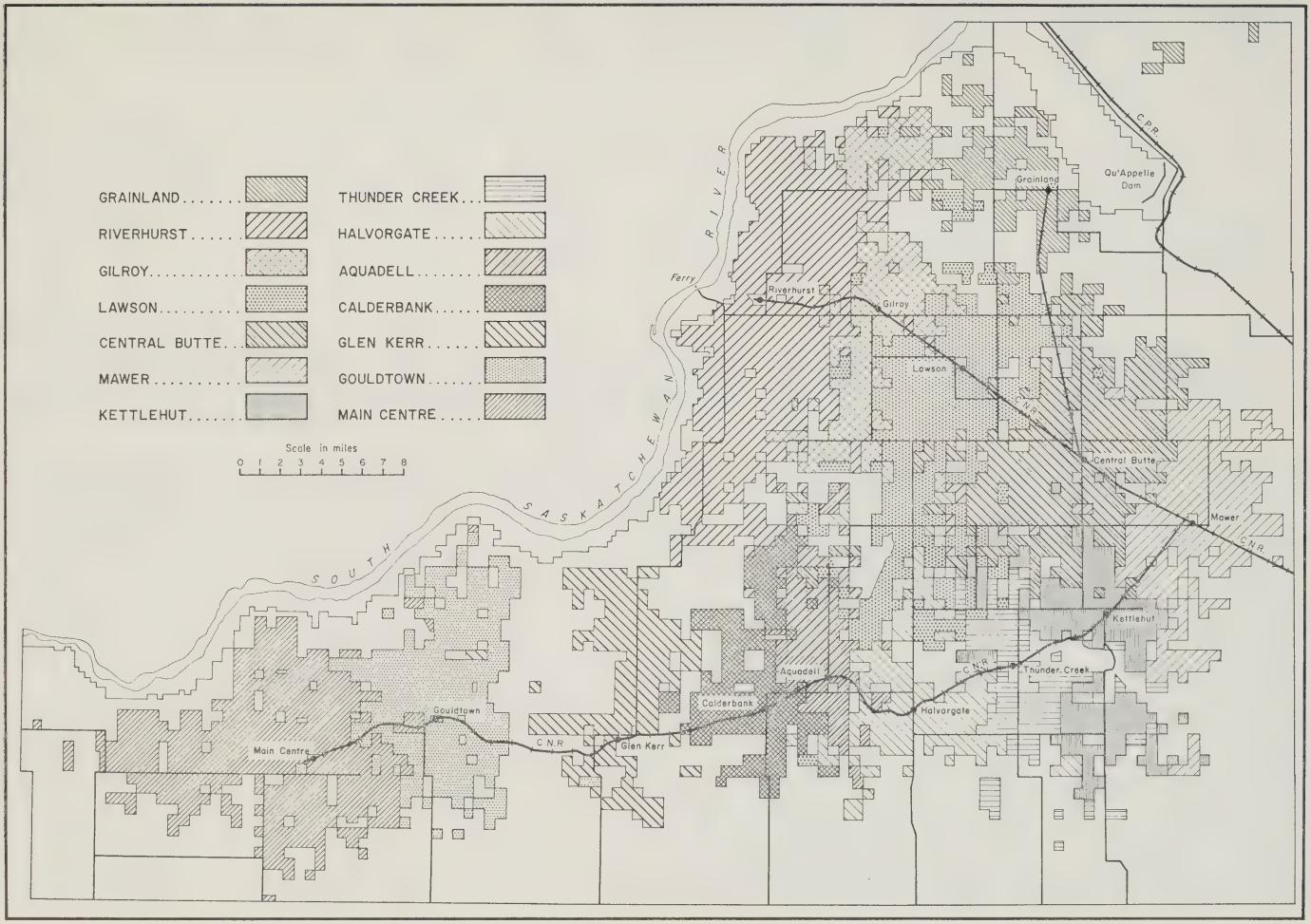


FIGURE 1

upwards of 70 per cent of the land is considered as being Class I. Municipality 195 is also characterized by low arability with about 60 per cent of its land reported to be in this class. It is especially evident in the Calderbank-Glen Kerr area. In the vicinity of Grainland (Municipality 224) approximately half the land is considered to be Class I.

The most productive land in the study area is the part in the Dark Brown Soil Zone. It is considered to be Class III land which averages about 66 per cent arable, and ranges from 50 to 100 per cent. In this class, loam soils predominate on a moderately rolling topography. Well over half the land in Municipality 193 is considered to be Class III. Much of it is in the Mawer area.

The remaining land in Classes IV and V represents a very small proportion of the total. On Class IV land, average arability reaches 85 per cent and ranges from 60 to 100 per cent. The soil varies from superior loams to clay and the topography is level to undulating. Arability on Class V land averages about 95 per cent, and ranges from 85 to 100 per cent. The soil is generally of a heavy clay texture. The individual parcels of land in this class tend to be well drained and stone free.

The majority of Class IV land is located in the northern half of Municipality 166 around Main Centre. Municipality 166 also contains the only Class V land in the study area. It is isolated in two small parcels, immediately to the west of Main Centre.

Grain Yield

Wheat yields in the study area fluctuate greatly, according to the amount and seasonal distribution of precipitation (Table 1).

While the period 1963-67 was not marked by a crop failure as widespread as in some years, parts of the study area did experience particularly severe drought conditions. In the 1967-68 crop year both Calderbank and Glen Kerr reported crop yields which were less than half the five-year average. In 1964-65, Prairie Farm Assistance Act payments were made to more than 70 per cent of the farmers in Grainland, Central Butte, and Glen Kerr (Table 2).

FARM SIZE

The number of grain delivery permits has decreased in most centres in the study area during the five-year period 1962-63 to 1966-67. The exceptions are Calderbank, Halvorgate and Lawson. The probability is that these points have become the substitute delivery point for Aquadell which was closed in 1966. While the number of grain farms has decreased, the mean size of farm has increased. The simple average is in most cases a deceiving figure, because a few of the large farms are getting larger while most farms are not changing their size. Therefore the range of farm sizes is increasing in most of the service areas, making the mean a deceptive figure due to the large variance. The median, or mid-point, farm size is a better indication of changing size structure in this area.

Listed below are the changes in farm size, by delivery points, for the crop years 1962-63 and 1966-67. The class interval of farm size used was 100 acres. The median and modal values are taken as the mid-point of the particular grouping in which they fall.

	1962–63	1966–67
Riverhurst		
Number of farms	99	91
Mean size	740 acres	850 acres
Maximum size	5,600 acres	5,920 acres
Minimum size	155 acres	75 acres
Median size	650 acres	650 acres
Modal size group	350 acres	350 acres
Gilroy		
Number of farms	40	36
Mean size	725 acres	846 acres
Maximum size	2,560 acres	2,400 acres
Minimum size	160 acres	160 acres
Median size	650 acres	650 acres
Modal size group	650 acres	650 acres
Lawson		
Number of farms	68	68
Mean size	816 acres	947 acres
Maximum size	2,560 acres	4,000 acres
Minimum size	160 acres	160 acres
Median size	750 acres	750 acres
Modal size group	950 acres	650 acres
Grainland		
Number of farms	25	17
Mean size	672 acres	823 acres
Maximum size	1,600 acres	2,240 acres
Minimum size	160 acres	160 acres
Median size	650 acres	650 acres
Modal size group	350 acres	350 acres
and	650 acres	
Central Butte		
Number of farms	75	66
Mean size	693 acres	825 acres
Maximum size	2,150 acres	2,720 acres
Minimum size	160 acres	160 acres
Median size	650 acres	750 acres
Modal size group	650 acres	650 acres
Mawer		
Number of farms	53	44
Mean size	654 acres	852 acres
Maximum size	2,560 acres	4,640 acres
Minimum size	160 acres	23 acres
Median size	650 acres	650 acres
Modal size group	650 acres	650 acres
Kettlehut		
Number of farms	36	31
Mean size	753 acres	803 acres
Maximum size	1,595 acres	1,600 acres
Minimum size	320 acres	160 acres
Median size	650 acres	650 acres
Modal size group	450 acres	650 acres
and	650 acres	
and	750 acres	
Thunder Creek		
Number of farms	20	19
Mean size	930 acres	911 acres
Maximum size	1,760 acres	2,080 acres
Minimum size	320 acres	320 acres
Median size	750 acres	750 acres
Modal size group	650 acres	750 acres

	1962–63	1966–67
Halvorgate		
Number of farms	30	31
Mean size	770 acres	970 acres
Maximum size	1,760 acres	2,400 acres
Minimum size	160 acres	160 acres
Median size	650 acres	950 acres
Modal size group	450 acres	450 acres
Calderbank		
Number of farms	38	40
Mean size	650 acres	694 acres
Maximum size	1,920 acres	3,040 acres
Minimum size	160 acres	160 acres
Median size	650 acres	450 acres
Modal size group	350 acres	450 acres
Glen Kerr		
Number of farms	48	44
Mean size	567 acres	598 acres
Maximum size	1,920 acres	1,860 acres
Minimum size	53 acres	158 acres
Median size	450 acres	450 acres
Modal size group	450 acres and 650 acres	450 acres
Gouldtown		
Number of farms	83	68
Mean size	466 acres	536 acres
Maximum size	1,120 acres	1,510 acres
Minimum size	80 acres	80 acres
Median size	450 acres	450 acres
Modal size group	350 acres	350 acres
Main Centre		
Number of farms	97	78
Mean size	584 acres	820 acres
Maximum size	8,400 acres	10,000 acres
Minimum size	79 acres	120 acres
Median size	450 acres	650 acres
Modal size group	350 acres	650 acres
Aquadell		
Number of farms	30	
Mean size	583 acres	
Maximum size	1,280 acres	
Minimum size	160 acres	closed
Median size	550 acres	
Modal size group	150 acres and 750 acres	

While in all but one point the mean size of farm has increased, in only three of the thirteen points has the median size increased. These three points are Main Centre, Halvorgate and Central Butte. At Calderbank the median size decreased during this period. The Halvorgate median had the largest increase—from 650 to 950 acres. Between the years 1962–63 and 1966–67 many changes in number of farms have occurred. For this reason one cannot readily detect where the producers who formerly delivered to Aquadell now take their grain. A reasonable assumption to make, however, is that they would choose as an alternate delivery point, the one closest to them.

Table 3 gives a year by year profile of the number of delivery permits issued at each of these points. One can readily see that farm consolidation has taken place at most points during this period. In 1966–67 Halvorgate, with 10 additional delivery permits, probably acquired most of the permits previously issued at Aquadell.

The number of permit books issued in Saskatchewan by the Canadian Wheat Board decreased by about 10 per cent between the crop years 1962–63 and 1966–67. The decrease for the study area is somewhat higher at 15 per cent. The greater decline of this region compared with the provincial average may be partly the result of the loss of farmland in the Grainland area by flooding at the dam projects. Also tending to encourage farm consolidation in the area is the low arability and higher variability of yield at Grainland and at some points along the Main Centre to Mawer line.

At most points, Gilroy being an exception, the maximum size of farm increased while in 8 of the 13 centres the minimum size remained constant between 1962–63 and 1966–67. This again tends to demonstrate that the increase in average size of farm is primarily due to larger sized farms becoming still larger while the smaller sizes of farms tend to remain as is. However, one must examine each farm in order to determine the real changes in farm size over this period. As was noted before, there has been a change to a larger sized median in only 3 of 13 points (Aquadell excluded).

Table 4 shows the distribution of grain farm sizes in the study area for the crop years 1962–63 and 1966–67. The median farm size for both crop years is 650 acres, whereas the modal size group increased from 350 acres in 1962–63 to 650 acres in 1966–67. In the crop year 1966–67 all size groups over 800 acres increased in proportion to what they were in 1962–63 while all but two of the size groups less than 800 acres declined proportionately.

LAND USE

The use of the farm land has changed somewhat over the five-year period. Tables 5 and 6 show the changes by delivery point as well as in total for the area under investigation.

The most dramatic change in land use is the increase in the proportion of land allocated to wheat production (Durum excluded). This is likely a direct result of the favorable market conditions for Canadian hard red spring wheat that has prevailed since 1963. Besides the increase in land allocated to wheat, slight increases were established in barley and forage crop acreages. All other crops were allocated less acreage in the crop year 1966–67 than in 1962–63. Durum wheat acreage decreased the most. The proportion of land in summer fallow has not changed significantly for the area as a whole, indicating that the grain producers have probably not changed their farming practices with respect to moisture retention techniques.

A perusal of Figure 1 (the delivery point elevator service areas as defined by the land described on

the Canadian Wheat Board permits issued in the study area) indicates that the land between Gouldtown and Glen Kerr, centering on Teakle, has not been claimed by grain producers. Examination of aerial photographs indicated that this area is devoted to grazing and Table 15 substantiates this. Shipments of livestock loaded at Teakle average about 11 carloads a year.

TABLE 1—AVERAGE YIELD OF WHEAT, OATS AND BARLEY, BY DELIVERY POINT, 1963 TO 1967

Delivery Point	WHEAT				OATS				BARLEY			
	High	Low	Range	5-year Average	High	Low	Range	5-year Average	High	Low	Range	5-year Average
	bushels per acre											
Riverhurst	25	12	13	18	55	30	25	43	40	15	25	26
Gilroy	25	10	15	17	50	25	25	41	40	10	30	26
Lawson	25	12	13	19	50	25	25	37	40	15	25	32
Grainland	20	8	12	13	40	14	26	25	25	5	20	18
Central Butte	27	12	15	19	60	25	35	43	40	20	20	29
Mawer	30	10	20	19	70	30	40	46	50	15	35	29
Kettlehut	30	11	19	20	50	18	32	35	65	18	47	36
Thunder Creek	27	15	12	20	50	30	20	40	35	15	20	26
Halvorgate	30	15	15	21	60	30	30	44	50	25	25	36
Aquadell[a]	30	18	12	24	60	40	20	53	55	35	20	43
Calderbank	30	8	22	19	50	15	35	34	45	20	25	30
Glen Kerr	28	8	20	19	60	30	20	41	35	20	15	28
Gouldtown	30	15	15	23	60	20	40	44	40	10	30	29
Main Centre	30	15	15	22	60	25	35	42	40	20	20	30

[a] Three year average. Elevator was closed in 1966.
Source: The Canadian Wheat Board.

TABLE 2—PFAA PAYMENTS TO SPECIFIED AREAS IN THE STUDY REGION, 1961-62 TO 1966-67

	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67
Riverhurst						
Number of recipients	41	32	—	18	—	—
Percent of total units receiving payments	41	33	—	20	—	—
Total amount paid	$ 19,535	$ 9,750	—	$ 4,321	—	—
Gilroy						
Number of recipients	32	29	—	6	—	—
Percent of total units receiving payments	74	52	—	16	—	—
Total amount paid	$ 12,607	$ 9,195	—	$ 1,702	—	—
Lawson						
Number of recipients	29	26	—	7	—	—
Percent of total units receiving payments	45	38	—	11	—	—
Total amount paid	$ 11,075	$ 8,820	—	$ 2,097	—	—
Grainland						
Number of recipients	27	26	—	23	—	—
Percent of total units receiving payments	87	100	—	100	—	—
Total amount paid	$ 17,600	$ 8,482	—	$ 8,526	—	—
Central Butte						
Number of recipients	52	47	—	51	—	—
Percent of total units receiving payments	68	62	—	72	—	—
Total amount paid	$ 21,699	$ 14,188	—	$ 16,757	—	—
Mawer						
Number of recipients	12	5	—	1	—	—
Percent of total units receiving payments	23	9	—	2	—	—
Total amount paid	$ 4,588	$ 1,375	—	$ 300	—	—

TABLE 2—PFAA PAYMENTS TO SPECIFIED AREAS IN THE STUDY REGION, 1961–62 TO 1966–67 (Concluded)

	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67
Kettlehut						
Number of recipients	n.a.	32	—	5	—	—
Percent of total units receiving payments	n.a.	86	—	14	—	—
Total amount paid	n.a.	$ 10,568	—	$ 1,003	—	—
Thunder Creek						
Number of recipients	n.a.	13	—	7	1	—
Percent of total units receiving payments	n.a.	65	—	35	6	—
Total amount paid	n.a.	$ 4,790	—	$ 2,085	$ 190	—
Halvorgate						
Number of recipients	35	26	—	9	—	—
Percent of total units receiving payments	103	87	—	41	—	—
Total amount paid	$ 17,268	$ 7,580	—	$ 2,115	—	—
Calderbank						
Number of recipients	19	4	—	—	—	—
Percent of total units receiving payments	51	10	—	—	—	—
Total amount paid	$ 6,576	$ 1,040	—	—	—	—
Glen Kerr						
Number of recipients	46	1	—	33	—	—
Percent of total units receiving payments	96	2	—	75	—	—
Total amount paid	$ 16,594	$ 270	—	$ 7,414	—	—
Gouldtown						
Number of recipients	71	7	—	25	—	—
Percent of total units receiving payments	85	8	—	32	—	—
Total amount paid	$ 22,903	$ 1,655	—	$ 3,865	—	—
Main Centre						
Number of recipients	120	40	4	37	—	—
Percent of total units receiving payments	112	41	4	44	—	—
Total amount paid	$ 48,868	$ 8,988	$ 555	$ 7,766	—	—

n.a.-not available.
Source: Canada Department of Agriculture.

TABLE 3—DELIVERY PERMIT BOOKS ISSUED, BY DELIVERY POINT, 1962–63 TO 1966–67

Delivery Point	1962-63	1963-64	1964-65	1965-66	1966-67
			number of permits		
Riverhurst	99	91	91	90	91
Grainland	25	23	23	27	17
Gilroy	40	39	38	39	36
Lawson	68	69	63	61	68
Central Butte	75	73	70	72	66
Mawer	53	52	50	43	44
Kettlehut	36	37	35	32	31
Thunder Creek	20	19	20	17	19
Halvorgate	30	24	22	21	31
Calderbank	38	41	40	38	40
Glen Kerr	48	46	44	44	44
Gouldtown	83	80	78	77	68
Main Centre	97	86	84	82	78
Aquadell	30	29	27	25	0
Total	742	709	685	668	633

Source: The Canadian Wheat Board.

TABLE 4—DISTRIBUTION OF GRAIN FARM SIZES IN THE STUDY AREA, CROP YEARS 1962–63 AND 1966–67

Size Group (Acres)	1962–63		1966–67	
	Number of Farms	Per Cent of Total	Number of Farms	Per Cent of Total
1– 100	6	0.8	3	0.4
101– 200	70	9.4	50	7.9
201– 300	10	1.3	10	1.6
301– 400	142	19.1	93	14.7
401– 500	114	15.4	91	14.4
501– 600	15	2.0	14	2.2
601– 700	128	17.3	101	15.9
701– 800	75	10.1	63	9.9
801– 900	11	1.5	15	2.4
901–1,000	54	7.3	47	7.4
1,001–1,100	4	0.5	4	0.6
1,101–1,200	38	5.1	38	6.0
1,201–1,300	26	3.5	34	5.4
1,301–1,400	1	0.1	5	0.8
1,401–1,500	16	2.2	15	2.4
1,501–1,600	12	1.6	15	2.4
1,601–1,700	1	0.1	1	0.2
1,701–1,800	7	1.0	8	1.3
1,801–1,900	0	0.0	1	0.2
1,901–2,000	4	0.5	4	0.6
2,001 and over	8	1.2	21	3.3
TOTAL	742	100.0	633	100.0

Source: The Canadian Wheat Board.

TABLE 5—ACREAGE DEVOTED TO SPECIFIED USE, BY DELIVERY POINT, CROP YEAR 1962–63

	Wheat	Durum	Oats	Barley	Rye	Summer Fallow	Forage Crops	Flax-seed	Rape-seed	Other Crops	Un-improved Land	Total
Riverhurst												
Acres	23,838	3,593	3,977	798	270	26,801	2,693	197	60	485	11,107	73,819
Per Cent	32.2	4.9	5.4	1.1	0.4	36.2	3.7	0.3	0.1	0.7	15.0	100.0
Grainland												
Acres	3,631	355	1,424	348	405	4,781	1,841	10	0	775	3,230	16,800
Per Cent	21.6	2.1	8.5	2.1	2.4	28.5	11.0	0.1	0.0	4.6	19.1	100.0
Gilroy												
Acres	9,266	1,703	1,509	461	0	11,602	645	170	0	441	3,443	29,240
Per Cent	31.7	5.8	5.2	1.6	0.0	37.7	2.2	0.6	0.0	1.5	11.7	100.0
Lawson												
Acres	16,671	3,890	1,959	1,550	100	22,125	716	461	0	140	8,061	55,673
Per Cent	29.9	7.0	3.5	2.8	0.2	39.7	1.3	0.8	0.0	0.3	14.5	100.0
Central Butte												
Acres	16,229	4,650	1,830	1,525	62	20,619	1,917	512	359	430	3,821	51,954
Per Cent	31.2	9.0	3.5	2.9	0.1	39.7	3.7	1.0	0.7	0.8	7.4	100.0
Mawer												
Acres	12,380	1,280	1,435	1,826	300	13,806	641	215	40	155	2,686	34,764
Per Cent	35.6	3.7	4.1	5.3	0.9	39.7	1.8	0.6	0.1	0.5	7.7	100.0
Kettlehut												
Acres	8,543	740	640	360	0	10,161	1,003	5	0	670	5,373	27,495
Per Cent	31.1	2.7	2.3	1.3	0.0	37.0	3.7	0.0	0.0	2.4	19.5	100.0
Thunder Creek												
Acres	4,601	795	593	245	0	6,378	367	320	0	510	4,822	18,631
Per Cent	24.7	4.3	3.2	1.3	0.0	34.3	2.0	1.7	0.0	2.7	25.9	100.0
Halvorgate												
Acres	6,164	900	645	235	5	7,955	472	770	129	109	6,074	23,458
Per Cent	26.3	3.8	2.8	1.0	0.0	33.9	2.0	3.3	0.6	0.5	25.8	100.0
Calderbank												
Acres	6,960	1,296	931	875	0	8,660	410	385	0	60	5,223	24,800
Per Cent	28.1	5.2	3.8	3.5	0.0	34.9	1.7	1.6	0.0	0.2	21.0	100.0
Glen Kerr												
Acres	6,217	20	1,910	387	0	7,561	1,131	0	0	85	10,201	27,512
Per Cent	22.6	0.1	6.9	1.4	0.0	27.5	4.1	0.0	0.0	0.3	37.1	100.0

TABLE 5—ACREAGE DEVOTED TO SPECIFIED USE, BY DELIVERY POINT, CROP YEAR 1962–63 (Concluded)

	Wheat	Durum	Oats	Barley	Rye	Summer Fallow	Forage Crops	Flax-seed	Rape-seed	Other Crops	Un-improved Land	Total
Gouldtown												
Acres	9,391	1,769	2,089	681	12	12,314	1,591	305	0	127	11,448	38,727
Per Cent	24.2	4.7	5.4	1.8	0.0	31.7	4.1	0.8	0.0	0.3	27.0	100.0
Main Centre												
Acres	16,875	4,708	2,762	1,004	6	21,355	1,349	195	0	132	12,185	60,571
Per Cent	27.9	7.8	4.6	1.7	0.0	35.2	2.2	0.3	0.0	0.2	20.1	100.0
Aquadell												
Acres	5,595	563	625	135	0	6,499	96	1,082	0	56	3,214	17,865
Per Cent	31.2	3.2	3.5	0.8	0.0	36.4	0.5	6.0	0.0	0.3	18.1	100.0
Total												
Acres	146,361	26,262	22,329	10,430	1,160	180,617	14,872	4,627	588	4,175	89,833	501,309
Per Cent	29.2	5.2	4.5	2.1	0.2	36.0	3.0	0.9	0.1	0.8	18.0	100.0

Source: The Canadian Wheat Board.

TABLE 6—ACREAGE DEVOTED TO SPECIFIED USE, BY DELIVERY POINT, CROP YEAR 1966-67

	Wheat	Durum	Oats	Barley	Rye	Summer Fallow	Forage Crops	Flax-seed	Rape-seed	Other Crops	Un-improved Land	Total
Riverhurst												
Acres	28,538	1,560	2,281	1,075	756	28,259	3,418	0	0	117	11,297	77,301
Per cent	36.9	2.0	3.0	1.4	1.0	36.6	4.4	0.0	0.0	0.1	14.6	100.0
Grainland												
Acres	4,250	225	775	716	570	3,619	1,165	0	0	0	2,680	14,000
Per Cent	30.4	1.6	5.5	5.1	4.1	25.9	8.3	0.0	0.0	0.0	19.1	100.0
Gilroy												
Acres	12,573	490	760	495	50	11,496	1,125	30	0	110	3,340	30,469
Per Cent	41.3	1.6	2.5	1.6	0.2	37.7	3.7	0.1	0.0	0.4	10.9	100.0
Lawson												
Acres	24,023	2,215	1,564	1,463	430	24,354	1,288	90	0	325	8,657	64,409
Per Cent	37.3	3.4	2.4	2.3	0.7	37.8	2.0	0.1	0.0	0.5	13.5	100.0
Central Butte												
Acres	22,826	1,810	648	1,280	355	21,269	2,461	20	0	140	3,629	54,438
Per Cent	41.9	3.3	1.2	2.4	0.6	39.1	4.5	0.0	0.0	0.3	6.7	100.0
Mawer												
Acres	17,555	375	830	670	70	13,562	680	10	0	810	2,940	37,502
Per Cent	46.8	1.0	2.2	1.8	0.2	36.2	1.8	0.1	0.0	2.1	7.8	100.0
Kettlehut												
Acres	9,909	90	252	210	75	9,069	510	10	0	355	4,428	24,908
Per Cent	39.8	0.4	1.0	0.8	0.3	36.4	2.0	0.1	0.0	1.4	17.8	100.0
Thunder Creek												
Acres	6,450	0	409	220	65	6,668	217	0	0	140	3,142	17,311
Per Cent	37.2	0.0	2.4	1.3	0.4	38.5	1.2	0.0	0.0	0.8	18.2	100.0
Halvorgate												
Acres	9,384	510	580	670	40	10,695	535	315	0	0	6,362	29,091
Per Cent	32.2	1.8	2.0	2.3	0.1	36.8	1.8	1.1	0.0	0.0	21.9	100.0
Calderbank												
Acres	10,048	240	898	430	0	9,695	486	280	0	208	5,461	27,746
Per Cent	36.2	0.9	3.2	1.5	0.0	34.9	1.8	1.0	0.0	0.8	19.7	100.0
Glen Kerr												
Acres	6,992	0	1,323	76	0	7,129	1,262	0	0	165	9,350	26,297
Per Cent	26.6	0.0	5.0	0.3	0.0	27.1	4.8	0.0	0.0	0.6	35.6	100.0
Gouldtown												
Acres	12,032	18	1,689	500	24	11,539	1,680	140	0	117	8,739	36,478
Per Cent	33.0	0.1	4.6	1.4	0.1	31.6	4.6	0.4	0.0	0.3	23.9	100.0
Main Centre												
Acres	20,330	1,049	2,454	3,248	55	22,623	2,117	66	0	79	11,955	63,976
Per Cent	31.8	1.6	3.8	5.1	0.1	35.4	3.3	0.1	0.0	0.1	18.7	100.0
Aquadell —CLOSED												
Total												
Acres	184,910	8,582	14,463	11,053	2,490	179,977	16,944	961	0	2,566	81,980	503,926
Per Cent	36.7	1.7	2.9	2.2	0.5	35.7	3.4	0.2	0.0	0.5	16.2	100.0

Source: The Canadian Wheat Board.

MARKETING FACILITIES AND PRACTICES

Between the crop years 1962–63 and 1966–67, the only significant change in grain elevator facilities has been the closing down of Aquadell (Table 7). This has not prompted the construction of additional capacity at any of the adjacent points considered in this study (Calderbank, Halvorgate or Lawson). There are several possible reasons for this:

(1) The grain elevator companies do not feel additional space is necessary;

(2) Aquadell has not been closed for a long enough period for additional storage space to be built; and

(3) Since all these adjacent points lie on branch lines for which abandonment applications have been filed by the railways, the grain elevator companies hesitate to undertake capital expenditure there.

Other than at Riverhurst, Lawson, Central Butte and Main Centre, the size of operation is relatively small in comparison with the rest of the province. On an individual elevator basis, only Main Centre, with a total of 162,000 bushels capacity between two elevators, surpasses the provincial average of about 71,000 bushels. At nine of the thirteen points (1966–67) there are fewer than three elevators. One may not conclude that every elevator at a particular point represents a different company as in some cases companies have more than one elevator at a point. However, accepting the number of elevators as a measure of competition, it is evident that at many of the points in the study area there is little or no service competition. The lack of representation of several companies at a point, plus the small size elevators at these points, again leads to the conclusion that this region is not a highly productive grain-growing area.

Table 8 shows the distance producers travel to deliver grain to elevators. For the study area as a whole, in the crop year 1962–63, the average hauling distance was relatively small at about five miles. Riverhurst, at just over seven miles, is substantially higher than the average for the area. This is due to its being an end-of-line point and consequently having a larger service area than an intermediate point would have.

The study area is tributary to the Lakehead terminal elevators, on the basis of lowest freight rates. One interesting feature is that it contains two freight rate zones. All points, other than Main Centre, are located in the 22-cent freight rate zone. Main Centre, however, is in the 23-cent zone. By examining Figure I, it appears that the service area of Gouldtown extends farther west than one might expect on the assumption that farmers deliver to the nearest point. Evidently some producers in the marginal area take advantage of the higher initial payments available at Gouldtown.

Table 9 shows the Canadian Wheat Board initial payments for selected grades of wheat, oats and barley in this area, for the crop year 1967–68. The difference between the initial prices at Main Centre and those in the remainder of the study area is not the full one cent discussed above. This is because the payments are on a per bushel basis, whereas the freight rate zones are on a per hundredweight basis. It should also be pointed out that 1 per cent is levied against these payments to cover the P.F.A.A. premium from those producers not covered by crop insurance.

TABLE 7—NUMBER OF ELEVATORS AND CAPACITY, BY DELIVERY POINT, CROP YEARS 1962-63 AND 1966-67

Delivery Point	Capacity		Number of Elevators	
	1962–63	1966–67	1962–63	1966–67
	bushels			
Riverhurst	198,000	193,000	4	4
Gilroy	76,000	76,000	3	3
Lawson	139,700	139,700	3	3
Grainland	26,000	26,000	1	1
Central Butte	193,100	193,100	4	4
Mawer	70,000	70,000	2	2
Kettlehut	28,000	28,000	1	1
Thunder Creek	27,000	27,000	1	1
Halvorgate	27,000	27,000	1	1
Calderbank	70,000	70,000	2	2
Glen Kerr	27,000	27,000	1	1
Gouldtown	54,000	54,000	1	1
Main Centre	162,000	162,000	2	2
Aquadell	47,000	0	1	0

Source: Board of Grain Commissioners.

TABLE 8—FARM TO ELEVATOR HAULING DISTANCES, BY DELIVERY POINT, 1962-63

Delivery Point	Number of Farms	Hauling Distance			Average Mileage
		High	Low	Range	
			miles		
Riverhurst	99	23.00	1.75	21.25	7.37
Gilroy	40	12.25	1.00	11.25	4.91
Lawson	68	15.25	1.25	14.00	6.25
Grainland	25	11.00	1.00	10.00	4.05
Central Butte	75	16.75	.25	16.50	4.99
Mawer	53	9.75	.50	9.25	3.67
Aquadell	30	10.50	.50	10.00	3.76
Kettlehut	36	10.40	.50	9.90	4.97
Thunder Creek	20	10.00	1.00	9.00	4.45
Halvorgate	30	13.00	.50	12.50	5.16
Calderbank	38	10.50	1.00	9.50	4.29
Glen Kerr	48	11.50	1.00	10.50	5.28
Gouldtown	83	10.75	1.50	9.25	5.13
Main Centre	97	13.00	1.40	11.60	5.20
Study area	742	23.00	.25	22.75	4.96

TABLE 9—CANADIAN WHEAT BOARD NET INITIAL PAYMENTS TO PRODUCERS ("STREET PRICES"), CROP YEAR 1967-68

Delivery Point	Grain and Grade								
	Wheat					Oats		Barley	
	No. 1 Northern	No. 2 Northern	No. 3 Northern	No. 4 Northern	2 C.W. Amber Durum	No. 2 C.W.	No. 1 Feed	No. 3 C.W. 6 row	No. 1 Feed
	dollars per bushel								
Main Centre	1.50¾	1.46¾	1.42¾	1.35¾	1.46¾	0.53⅛	0.48⅛	0.89⅝	0.80⅝
All other delivery points	1.51½	1.47½	1.43½	1.36½	1.47½	0.53½	0.48½	0.90⅛	0.81⅛

Source: Canadian Wheat Board.

Farmers in the study area generally haul their grain to the elevators in their own truck. In most cases producers will deliver to the elevator point closest to them. Livestock are delivered by both farm truck and public carrier to either Moose Jaw or Swift Current, which are the closest auction yards to the study area. The Saskatchewan Wheat Pool Livestock Division operates the stockyards and auction rings and also acts as agents for buyers and sellers at both Moose Jaw and Swift Current.

Carloads of livestock are shipped out of the area from Teakle and, less frequently, from Glen Kerr and Main Centre.

The sizes of farm trucks operated in the region were as shown in Table 10. The survey was by no means exhaustive as only 27 producers returned questionnaires. However, the data are perhaps random enough to be appropriate.

TABLE 10—FARM TRUCK SIZE IN THE STUDY AREA, 1962-63

Size of truck	Number of Trucks
½ ton	7
1 ton	9
1 ½ton	2
2 ton	5
2 ½ton	3
3 ton	6

COMMUNITIES

A modification of the system devised by the Province of Saskatchewan Royal Commission on Agriculture and Rural Life (1957) was used to classify communities within the study area. The basic determining unit was a service activity. Thus, if there

is present in a centre from 2 to 8 service activities, that community is here classified as a hamlet; if from 9 to 32 service activities, it is a village and if from 33 to 59 it is a town.

Using such a classification and data collected in 1966, Central Butte emerges as the only town in the study area (Table 11). There are four villages, viz.: Riverhurst, Lawson, Gouldtown and Main Centre. Riverhurst and Main Centre are communities at the end of the railways and naturally tend to have a greater territory to serve. Accordingly, Riverhurst has almost attained town status in terms of service provided. Grainland, Kettlehut and Thunder Creek exist only as grain delivery points. The remainder of the communities are classed as hamlets.

TABLE 11—CLASSIFICATION OF COMMUNITIES IN THE STUDY AREA, 1962-63

Too small to classify (0–1 services)	Hamlets (2–8 services)	Villages (9–32 services)	Town (33–59 services)
Grainland	Gilroy	Riverhurst	Central Butte
Kettlehut	Mawer	Lawson	
Thunder Creek	Halvorgate	Gouldtown	
Teakle	Calderbank	Main Centre	
	Aquadell		
	Glen Kerr		

The following service activities were present in the communities of the area in 1966:

Hamlets

Gilroy: post office, railway station, grain buyer (3 elevators), church.

Mawer: post office, grain buyer (2 elevators), grocery store, curling rink, church.

Halvorgate: post office, grain buyer (1 elevator), general store, service station, bulk oil depot.

Calderbank: grain buyer (2 elevators), primary school, police station.

Aquadell: post office, grocery store, service station, bulk oil depot, propane gas depot.

Glen Kerr: post office, grain buyer (1 elevator), general store, community hall, primary school, service station, bulk oil depot, fertilizer sales.

Villages

Riverhurst: post office, railway station, rural telephone exchange, trucking service, grain buyer (4 elevators), general store (2), garage (4), lumber yard, hardware, implement dealer (3), bulk fuel dealer (3), cafe, intermediate-size school, church (2), village office, curling rink, skating rink, playground, community hall, national association, agricultural organizations, beer parlour, barber, pool room, credit union.

Lawson: post office, railway station, grain buyer (3 elevators), general store, garage, bulk fuel dealer, intermediate-size school, church, rural municipality office, national association.

Gouldtown: post office, grain buyer (1 elevator), general store, bulk fuel dealer, primary school, church, service station, electrician, curling rink.

Main Centre: automobile repair shop, service station (2), curling rink, post office, general store, primary school, lumber and building products, bulk oil sales, propane gas sales, welding shop, church, grain buyer (2 elevators).

Towns

Central Butte: post office, railway station, telephone exchange, grain buyer (4 elevators), garage (4), automobile dealer, auto parts and accessories, lumber yard, hardware store, implement dealer (4), fuel oil dealer (3), grocery store (2), liquor store, cafe and confectionery (2), clothing store, drug store, school, church (2), rural municipality office, town office, Chamber of Commerce, curling rink, national associations (2), agricultural organization (2), police station, doctors, hospital, Provincial Government office, hotel beer parlour, shoemaker, painter and decorator, barber, dry cleaning agent, pool room, theatre, barrister-solicitor, credit union, bank, insurance agent.

The development of Palisser Regional Park on the new lakeshore near Riverhurst gives promise of attracting tourists and may generate further economic activity in that vicinity.

Table 14 shows the post office receipts at each of the delivery points for the past 10 years. They are an indication of the relative size of each of the communities and also of changes in size during this period. Central Butte has not only shown the greatest growth of post office receipts but also has by far the largest total of receipts.

POPULATION

Central Butte, with a population of 534, and Riverhurst with 310, are currently the main centres of population in the study area (Table 12). Three communities have populations between 50 and 100. They are Mawer (73), Lawson (69), and Main Centre (55). Of the nine remaining communities in the region three have a population of six each. These are Aquadell, Thunder Creek and Gilroy. The Saskatchewan Municipal Directory for 1967 lists

one person living in Kettlehut and none at Grainland. Almost without exception, farmers in the area reside on their farms.

TABLE 12—POPULATION, BY COMMUNITY, STUDY AREA, 1967

Community	Population
Riverhurst	310
Gilroy	6
Lawson	69
Grainland	0
Central Butte	534
Mawer	73
Kettlehut	1
Thunder Creek	6
Halvorgate	7
Calderbank	19
Glen Kerr	29
Gouldtown	49
Main Centre	55
Aquadell	6

Source: *Saskatchewan Municipal Directory*, Department of Municipal Affairs, Regina, 1967.

SCHOOL ENROLMENT

At the end of September, 1967, there were schools in seven of the fourteen communities in the study area. At the end of the previous school year Tuxedo School at Calderbank was closed and the students now attend schools at Morse, Ernfold and Riverhurst. Table 13 shows the number of grades and students at each school.

TABLE 13—NUMBER OF GRADES AND TOTAL ENROLMENT IN SCHOOLS, SEPTEMBER 1967

	Grades	Enrolment
Riverhurst	I to XI	130
Lawson	I to VIII	29
Central Butte	I to XII	406
Glen Kerr	I to IV	23
Gouldtown	I to VIII	72
Main Centre	I to VIII	71

Central Butte is the only community in the study area where Grade XII is available. There are also special facilities for training retarded children at Central Butte. Accordingly, students are drawn from all other areas in the region. Grade XII students from Riverhurst attend school at Central Butte, as do Grades IX to XII students from the Lawson school area. Grades V to XII students from the Glen Kerr area are conveyed to school at Morse and high school students from Gouldtown and Main Centre are taken to Herbert.

TRANSPORTATION FACILITIES

The study area is served by three branch lines of the Canadian National Railways. These are: The Riverhurst subdivision, an extension of the Central Butte subdivision; a stub line from Central Butte to Grainland that was formerly a through line from Moose Jaw to Saskatoon, before the trackage north of Grainland was flooded by the water backed up behind the Gardiner Dam; and the Main Centre subdivision that branches from the Central Butte subdivision at Mawer (Figure 1).

There is no passenger service on any of the three lines. Other than at Central Butte and the points on the Riverhurst subdivision, carload service only is available. Central Butte and Riverhurst are the only stations where an agent is located.

Table 15 shows the volume of freight traffic moved into and out of the stations on the three branch lines. The largest share of this traffic is grain moving to the Lakehead.

Freight service on the Grainland spur and the Main Centre subdivision is on an "as required" basis. The Riverhurst line is serviced by way-freight.

The Canadian National Railways have applied to the Canadian Transport Commission for permission to abandon all of these three branch lines.

The highways in the study area are either gravel surfaced provincial highways (Numbers 19 and 42) or municipal grid roads. It is sometimes necessary to restrict truck movement during the spring thaw.

Jay's Transport of Regina provides a general freight service linking Riverhurst, Central Butte and intermediate points to Moose Jaw and Regina. In June 1967 the Saskatchewan Highway Traffic Board granted authority to the Butte Bus Lines Ltd. of Central Butte to operate a daily (except Wednesday and Sunday) service between Moose Jaw and Kenaston via Marquis, Eyebrow, Central Butte, Bridgeford, Elbow, and Loreburn. This service is in operation.

A new, larger-capacity, diesel ferry has been built and placed in operation at Riverhurst connecting with the continuation of Highway 42 to Lucky Lake, Dinsmore and northwards to Highway 7.

TABLE 14—POST OFFICE RECEIPTS, BY POST OFFICE, FISCAL YEARS, 1957-58 TO 1966-67

Post Office	1957–58	1958–59	1959–60	1960–61	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
	dollars									
Riverhurst	2,689	2,664	2,585	2,822	2,963	2,977	3,059	3,329	3,360	3,596
Gilroy	326	392	298	253	211	175	233	194	193	66
Lawson	906	955	900	990	911	895	963	983	978	797
Grainland	328	380	319	335	337	283	125	—	—	—
Central Butte	4,192	4,646	4,536	4,909	5,883	6,171	6,879	7,893	8,476	8,766
Mawer	755	439	547	533	514	493	435	405	356	337
Halvorgate	332	319	294	332	316	322	273	292	369	367
Aquadell	386	389	366	387	385	391	356	371	300	308
Calderbank	347	334	326	350	324	366	407	322	318	264
Glen Kerr	425	427	408	418	482	418	455	460	473	452
Gouldtown	557	552	542	509	455	412	469	479	428	465
Main Centre	791	774	799	712	816	889	802	885	896	926

Source: Canada Post Office, Information Division, Ottawa.

TABLE 15—NUMBER OF REVENUE CARLOADS, INBOUND AND OUTBOUND, BY DELIVERY POINT, 1960 TO 1966

Delivery Point	Commodity	Number of Revenue Carloads													
		1960		1961		1962		1963		1964		1965		1966	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Riverhurst	Scrap steel					n/a									2
	Motor vehicles														
	Petroleum products	35		32				36		15					
	Coal	9		11				6		6		6		4	
	Forest products	7		5				2		4					
	Implements	5		4				6		4		1			
	Plywood	1													
	Millstuffs	1													
	Machinery	2													
	Grain		214		263				249		261		240		258
	Fertilizer							1							
	Food (unfrozen)							1							
	Feed											1			
	Manufactured and miscellaneous									1					
	Electrical equipment and parts									3					
	Total	60	214	52	263			52	249	35	261	8	240	4	260
Gilroy	Coal					n/a									
	Hay and Straw			6											
	Grain		93		107				82		99		93		96
	Scrap metal														1
	Total		93	6	107				82		99		93		97
Lawson	Forest products					n/a									
	Coal			2				1							
	Grain		176		210				166		214		193		288
	Waste materials & metal								2						1
	Total		176	2	210			1	168		214		193		289
Grainland	Coal	2		2		n/a									
	Grain		33		32				22		40		28		41
	Posts							1							
	Waste materials								2						
	Machinery and machines										1				
	Total	2	33	2	32			1	24		41		28		41
Central Butte	Cattle														1
	Tractors	3				2									
	Agricultural implements	7		5		1		12		8		7			
	Motor vehicles							1		4		1			

TABLE 15—NUMBER OF REVENUE CARLOADS, INBOUND AND OUTBOUND, BY DELIVERY POINT, 1960 TO 1966 (Concluded)

Delivery Point	Commodity	Number of Revenue Carloads													
		1960		1961		1962		1963		1964		1965		1966	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
	Sewer pipe, tile and bricks							2				1		2	
	Forest products	12		11		7		4		2		2			
	Flour									2		4		2	
	Petroleum products	23		24		26		28		27		36		31	
	Coal	22		15		17		15		14		15		11	
	Grain		218		249		154	217			234		220		246
	Machinery and machines	2		5		3					3	1		20	
	Waste materials								7						1
	Mustard seed				5		7								
	Wire					1									
	Lime and cement	1				1									
	Hay and straw	4		1		12									
	Total	74	218	61	254	70	161	62	224	57	237	67	220	66	248
Mawer	Hay and straw			3		1		n/a		n/a		n/a		n/a	
	Coal	4		2		1									
	Grain		134		130		95								
	Scrap iron				1										
	Total	4	134	5	131	2	95								
Kettlehut	Grain		80		94	n/a			92	n/a			93	n/a	
	Scrap iron								1						
	Total		80		94				93				93		
Thunder Creek	Grain		53		56	n/a			52	n/a			47	n/a	
Halvorgate	Grain		99		80	n/a			69	n/a			82	n/a	
Aquadell	Grain		59		81	n/a			75	n/a			78	n/a	
	Scrap iron								1						
	Total		59		81				76				78		
Calderbank	Poles	2				n/a				n/a				n/a	
	Grain		83		96				109				83		
	Total	2	83		96				109				83		
Glen Kerr	Coal	3		4		n/a		3		n/a		2		n/a	
	Flour	1													
	Livestock		2										5		
	Grain		53		65				65				53		
	Total	4	55	4	65			3	65			2	63		
Teakle	Livestock		8		10	n/a			17	n/a			7	n/a	
Gouldtown	Coal	5		4		n/a		2		n/a		3		n/a	
	Farm implements			1											
	Hay and straw		3												
	Grain		130		121				113				116		
	Total	5	133	5	121			2	113			3	116		
Main Centre	Coal	4		2		n/a		2		n/a				n/a	
	Machinery			1											
	Construction equipment	1	2												
	Twine			1											
	Farm implements	1		1											
	Livestock				4										
	Grain		212		228				189				187		
	Total	6	214	5	232			2	189				187		

N/a = not available.
Source: Canadian National Railways, Analytical Services, Winnipeg.

SUMMARY

The study area is one of relatively low agricultural productivity because of low and highly variable grain yields. Large acreages are required for an economic farm unit, therefore farm consolidation will undoubtedly continue.

The present service centres are relatively small and closely spaced. The investment in grain handling facilities, railways, credit agencies, farm implement dealerships, garages, fuel agencies, stores, schools, churches, community halls, and many other service facilities is spread thinly among the numerous centres. In this situation there are few opportunities for the industries that service the farming community to achieve the size that enables them to provide the quality and quantity of services required by farmers. Along with consolidation of farms there will undoubtedly be consolidation of the centres that serve the farming community.

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(*2*) *Soil Survey Report No. 12*, J. Mitchell, H. C. Moss, and J. S. Clayton, College of Agriculture, University of Saskatchewan, 1944.

(*3*) *Land Classification in Saskatchewan*, R. A. Stutt, Canada Department of Agriculture, Economics Branch, 1959.

(*4*) *Royal Commission on Agriculture and Rural Life, Report No. 12, Service Centres*, Province of Saskatchewan, Regina, 1957.

POLICY AND PROGRAM DEVELOPMENTS

Turkey Import Restrictions—The Government of Canada has taken action under the Customs Act to alleviate the problem to the Canadian turkey industry of below-cost imports from the United States, and a special valuation is being levied on live turkeys entering Canada at distress prices during the current marketing season. While Canadian producers will thus be protected against a product being sold at less than cost, United States turkeys will still move freely into Canadian markets at prices somewhat lower than those which have prevailed in recent years. (November 16, 1967)

Interim Adjustment Payment on Dairy Subsidy—An interim adjustment payment on dairy subsidy quotas to manufacturing milk and cream shippers will be made by the Canadian Dairy Commission. The payment will cover deliveries by quota holders reported by plants to the Commission for the months of April to November, 1967, inclusive. The payment will include amounts owing under regular quotas for the eight-month period, and back payments to those whose quotas were adjusted by supplementaries or reallocations for the period before the adjusted quotas were approved. (December 6, 1967)

Grants and Quality Premium Changes—During a speech in the House of Commons, the Minister of National Revenue announced the following changes in agricultural assistance programs: (1) cheese quality premium payments will be discontinued, effective April 1, 1968, (2) no further applications will be received for subsidies under the cheese factory amalgamation and improvement program. Applications received to date will be processed in the usual way, (3) quality premium payments for hog and lamb carcasses will be reduced by $1.00 per carcass, effective April 1, 1968. (December 7, 1967)

World Food Programs—Canada pledged $21,600,000 towards the World Food Program for 1969 and 1970. Of the total Canadian pledge, 25 per cent is cash and 75 per cent foodstuffs.

Since 1962 Canada has pledged a total of $36,685,640, of which $9,639,400 was in cash and $27,046,060 in foodstuffs. This has included wheat, oats, wheat flour, beans and peas, skim milk powder, whole milk powder, cheese, butter, butter-oil, egg powder, dried and canned fish. (January 8, 1968)

PUBLICATIONS

UNITED NATIONS PUBLICATIONS

Available in Canada from the Queen's Printer, Ottawa.

Evaluation of Some Pesticide Residues in Food, Food and Agriculture Organization, Rome, 1967. pp. 237. Report of the Joint Meeting of the FAO Working Party and the WHO Expert Committee on Pesticide Residues which met in Geneva, 14-21 November, 1966.

This report is a series of monographs containing technical information on pesticide residues in food. Included are biological data, toxicological evaluation and agricultural data and their evaluation, considered at the meeting.

Multifarm Use of Agricultural Machinery, Lönnemark H., consultant, Agricultural Engineering Branch, Land and Water Development Division, Food and Agriculture Organization, Rome, 1967. pp. xi + 113.

The report of a study of the multifarm use of agricultural machinery and its economic aspects in many countries, with emphasis on developing countries.

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STATISTICAL APPENDIX

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1966-67

Commodity, grade and market	1966			1967			
	Average	Nov.	Dec.	Sept.	Oct.	Nov.	Dec.
	dollars per cwt.						
CATTLE (weighted average prices at public stockyards)							
Good slaughter steers							
Toronto	25.85	26.50	27.25	28.60	28.74	28.50	28.09
Winnipeg	25.15	25.07	26.21	28.57	28.47	28.63	27.88
Calgary	24.50	24.47	25.40	27.78	27.85	27.23	26.89
Good feeder steers							
Toronto	27.70	28.00	28.00	29.50	28.53	28.50	28.50
Winnipeg	25.55	24.62	25.48	26.92	25.96	25.90	25.98
Calgary	24.90	24.88	24.91	27.12	27.14	26.38	26.00
Good and choice veal calves							
Toronto	34.95	34.50	38.91	32.30	33.66	35.13	37.62
Winnipeg	34.35	34.84	37.79	38.05	36.30	35.20	39.22
Edmonton	28.20	23.87	26.50	26.88	23.94	24.00	26.90
HOGS (weighted average prices at public stockyards, Grade A dressed)							
Toronto	35.90	33.79	33.00	30.08	29.23	27.73	28.74
Winnipeg	34.45	30.52	30.13	28.65	27.87	26.35	26.86
Calgary	33.50	30.11	29.37	26.77	26.17	25.47	25.55
LAMBS (weighted average prices at public stockyards, Good lambs)							
Toronto	26.50	24.83	26.14	26.59	25.27	24.84	25.36
Winnipeg	21.85	20.57	21.00	20.36	20.00	18.54	19.95
Calgary	22.00	19.17	18.71	18.71	19.53	17.75	18.66
FLUID MILK (f.o.b. factory)							
Halifax	6.00	6.10	6.10	6.45	6.45	6.45	6.45
Montreal	5.41	5.55	5.55	6.00	6.00	6.00	6.00
Toronto	5.52	5.75	5.75	6.10	6.10	6.10	6.10
Winnipeg	5.34	5.48	5.48	5.97	5.97	5.97	5.97
Vancouver	6.59	6.72	6.74	7.08	7.09	7.13	7.16
MANUFACTURING MILK (average farm value)							
Nova Scotia	2.94	3.12	3.05	3.20	3.24	—	—
New Brunswick	3.19	3.28	3.28	3.08	3.08	—	—
Quebec	3.08	3.14	3.16	3.31	3.31	—	—
Ontario	3.14	3.38	3.28	3.40	3.58	—	—
British Columbia	3.24	3.28	3.28	3.41	3.40	—	—
	cents per lb.						
BUTTERFAT (for butter, average farm value)[a]							
Prince Edward Island	65.4	66.0	67.0	68.0	68.0	—	—
Quebec[b]	82.9	80.8	81.5	89.5	88.5	—	—
Ontario[c]	75.7	77.5	77.4	81.4	81.5	—	—
Saskatchewan	61.4	64.3	62.9	62.8	63.0	—	—
British Columbia	78.9	82.8	82.8	85.8	85.8	—	—
	cents per doz.						
EGGS (average paying prices at registered grading stations, Grade A Large)							
Halifax	44.6	54.2	51.2	39.5	40.2	40.0	41.5
St. Anselme	45.5	55.0	53.1	37.0	38.3	36.1	36.2
London	45.4	53.7	52.2	35.2	36.0	32.7	33.5
Winnipeg	38.1	44.4	39.6	30.0	27.9	27.2	28.1
Vancouver	39.9	40.2	43.6	31.0	28.4	29.0	30.0
	cents per lb. live						
BROILERS (average prices paid to growers No. 1 grade chicken under 5 lbs.)							
Toronto	20.6	20.5	20.0	19.0	19.2	19.9	20.5
Edmonton	21.8	20.5	20.5	20.2	20.8	21.5	21.5
TURKEYS (average prices paid to growers, No. 1 grade, 12–20 lbs.)							
London	25.4	26.5	27.2	24.0	24.9	24.8	25.2
Edmonton	25.8	26.0	26.0	25.0	25.5	25.5	25.5

AVERAGE PRICES OF SELECTED CANADIAN FARM COMMODITIES, VARIOUS MARKETS AND GRADES, 1966-67 (Concluded)

Commodity, grade and market	1966–67 Crop Year Average	1966 Nov.	1966 Dec.	1967 Sept.	1967 Oct.	1967 Nov.	1967 Dec.
			dollars per cwt.				
POTATOES (Can. No. 1 Table, average prices to growers)							
Prince Edward Island	1.21	1.25	1.15	1.20	1.37	1.37	1.13
New Brunswick	1.00	1.27	1.10	1.03	1.38	1.28	1.12
Southwestern Ontario	1.70	1.88	1.93	1.92	1.97	2.03	2.09
			cents & eights per bu.				
EASTERN GRAINS							
Oats (Ont. No. 2 White, f.o.b. shipping points)	82/2	79/4	80	85	85	85	85
Barley (Ont. good malting, f.o.b. shipping points)	145	145	145	145	145	145	145
Corn (Ont. No. 2 Yellow, f.o.b. Chatham, 15% moisture, in carlots)	152/6	147/6	153/2	149/2	132/2	124/4	125
Soybeans (Ont. No. 2, f.o.b. Chatham)	306/6	306/1	302/7	295/1	287/5	275	271
WESTERN GRAINS (basis in store Fort William/Port Arthur, less freight and elevator handling charges)							
Red Spring Wheat (No. 2 Nor.)							
Winnipeg	195/6	196/1	196/7	178/5	180/2	176/2	177/3
Regina and Edmonton	192/2	192/5	193/3	175/1	176/6	172/6	173/7
Durum Wheat (No. 1 C.W.A.D.)							
Winnipeg	213	215/1	215/7	218/7	213/5	209/2	210/3
Regina and Edmonton	209/4	211/5	212/3	215/3	210/1	205/6	206/7
Feed Wheat							
Winnipeg	177/3	178/1	178/7	163/5	165/2	161/2	162/3
Regina and Edmonton	173/7	174/5	175/3	160/1	161/6	157/6	158/7
Oats (No. 1 feed)							
Winnipeg	79/4	81/2	80/1	83/1	82/3	82/6	82/2
Regina	77/4	79/2	78/1	81/1	80/3	80/6	80/2
Edmonton	75/4	77/2	76/1	79/1	78/3	78/6	78/2
Barley (No. 1 feed)							
Winnipeg	117/1	121/5	121/3	113/3	111/5	111/5	111/3
Regina	114/1	118/6	118/4	110/4	108/6	108/6	108/4
Edmonton	111/2	115/7	115/5	107/5	105/7	105/7	105/5
Rye (No. 2 C.W.)							
Winnipeg	125/2	120/2	124/4	118/1	118/5	118	118
Regina	121/6	116/7	121/1	114/6	115/2	114/5	114/5
Edmonton	118/5	113/5	117/7	111/4	112	111/3	111/3
Flaxseed (No. 1 C.W.)							
Winnipeg	291/3	281/5	284/2	336/4	323/7	335/4	336/4
Regina	288/1	278/3	281	333/2	320/5	332/2	333/2
Edmonton	284/5	274/7	277/4	329/6	317/1	328/6	329/6
Rapeseed (No. 1 C.W. basis in store Vancouver)	278/1	268/3	285/5	237/6	231/4	232/2	236/6

[a] Since the average farm values for manufacturing milk and butterfat published by the Dominion Bureau of Statistics (D.B.S.) do not include the Federal subsidies as of April 1, 1966, it is necessary to add, during the 12-months' period ended March 31, 1967, the Federal payment of 85¢ per 100 pounds of milk testing 3.5% butterfat to obtain the full returns to producers. Ten cents were retained for export aid. The net payment of 75¢ per cwt. was made directly to farmers, at the equivalent rate of 21.43¢ per pound of butterfat. Since the end of the dairy year, a rebate of 2.7¢ per cwt. from the export assistance holdback has been paid to dairy farmers.

Federal subsidies for the 12-months' period April 1, 1967 to March 31, 1968 amount to $1.21 per cwt. of milk testing 3.5% butterfat, of which 11¢ are retained for export aid. The net payment per cwt. is again made directly to producers at the equivalent rate of 31.42¢ per pound of butterfat.

[b] In the Province of Quebec, and beginning April 1, 1966, full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote [a]), plus a payment made by the Quebec Government. This payment is made on butterfat at the rate of 5¢ per pound from April 1 to September 30 and at the rate of 10¢ per pound from October 1 to March 31. Prior to April 1, 1966, this payment, which began in October, 1964, was made through factories and was part of the producer's farm value. It terminated on March 31, 1967.

[c] In the Province of Ontario, and beginning October 1, 1966 until March 31, 1967 full producer returns consist of the published D.B.S. average farm values for manufacturing milk and butterfat, plus the Federal payment (see footnote [a]), plus a payment made by the Ontario Government. The payments amount to 25¢ per hundredweight (7.14¢ per pound butterfat) of manufacturing milk and secondary and excess fluid milk delivered to plants, basis 3.5% butterfat. For all cream grading Special and/or No. 1, the payment is 10¢ per pound butterfat.

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HON. J. J. GREENE, MINISTER—S. B. WILLIAMS, DEPUTY MINISTER

CONOMICS BRANCH CANADA DEPARTMENT OF AGRICULTURE

This issue of CANADIAN FARM ECONOMICS contains the background papers presented to the 28th annual Federal-Provincial Agricultural Outlook Conference, held in Ottawa, November 27 and 28, 1967. These papers were prepared by committees representative of the Departments of Agriculture, Finance, Forestry, Industry, Manpower and Immigration, Trade and Commerce, the Dominion Bureau of Statistics and the Bank of Canada. The reports as presented to the Conference were based generally on information available at mid-October.

CANADIAN FARM ECONOMICS

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CANADIAN FARM ECONOMICS

GENERAL ECONOMIC SITUATION AND OUTLOOK

INTERNATIONAL ECONOMIC SITUATION

The year 1967 has been characterized thus far by a general weakening of the forces making for expansion in the world economy. As the O.E.C.D. put it, "Economic growth has slowed down, or been halted in the three largest industrial countries, with repercussions on growth in many other countries and on world trade". It was also pointed out that "for the first time for nearly a decade, there has been a simultaneous weakening of demand in several important countries". As a matter of fact, the slowing down of world trade and industrial output in several key countries has gone somewhat farther than was foreseen.

More recently, however, positive signs have appeared that an economic recovery may be in the offing. The stronger trend of demand and production now emerging in the United States, and probably in Britain and West Germany is coming at a time when the economies of Japan and Italy are still forging ahead. This in turn should generate sufficient momentum to bring about a period of stronger growth for the world economy.

Renewed economic expansion is being supported by the adoption of more expansionary policies in several countries. Looking at the world scene, there is a greater awareness that, for the present at least, economic policy in several major industrial countries will have to face the problems not of too fast but of relatively slow growth. Within the limits imposed by the maintenance of an acceptable degree of price stability and balance of payments considerations, many countries appear to be re-orienting their policies with the primary objective of stimulating economic growth. Britain, Germany, France, Sweden and several other countries have already enacted reflationary measures in differing degrees.

In the United States and in Japan, in contrast, the present or anticipated level of activity is regarded as being too high to be sustained for long without causing serious strains in important areas of their respective economies. As a consequence, the aim of government policy in these two countries is to keep the forces of expansion under control.

While the evidence that a certain amount of reflation is now occurring in important industrial countries appears to be clear and convincing, especially with regard to the United States, it must not be expected that the level of industrial activity and of world trade will necessarily rise very rapidly in the year ahead. The improvement here is best regarded as a recovery from a slowdown prevailing in the latter part of 1966 and throughout most of 1967 rather than a return to "boom" conditions characteristic of most of the period since 1961.

In primary producing countries, the total value of exports has continued to rise, but only slowly. In the first half of 1967 merchandise exports were running about 2.5 per cent higher than a year earlier. However, commodity prices for most primary products are still generally weak and no widespread upswing can be anticipated in the near future. The accumulation of foreign exchange reserves by primary producers is no longer taking place and this may in turn lead to some curtailment of rates of growth and of imports.

United States

In Canada's most important market area, the United States, the rapid acceleration in economic activity in 1966 was followed by a much slower pace of overall growth during the first half of this year. During this period of time, the United States was undergoing an adjustment on an unprecedented scale which was a major factor depressing industrial output. As a result, the United States gross national product in real terms marked time in the first quarter of this year and showed only a relatively modest rise in the second quarter of 1967. At the same time, the industrial production index, a measure of the physical output of the nation's factories, mines and utilities, declined throughout the first six months of the year; but an upturn in July and August recovered most of the earlier loss. Concurrently, U.S.

manufacturers have been operating at well below full capacity this year.

This weakening of the U.S. domestic economy was reflected also by a slowing in U.S. import demand. During the first eight months of the year, U.S. general imports were running only about 6 per cent higher in value terms than in the same period of 1966. By way of contrast, U.S. imports rose by some 20 per cent in the 1966 calendar year.

The completion of the main inventory adjustment during the first half of this year has cleared the way for a faster rate of overall economic growth in the period ahead. A continuation of higher government spending, especially in defence oriented activities, a marked revival in residential construction activity, a stronger consumer sector, as well as a renewal of inventory accumulation, are all part of the more expansionary climate visualized for the final stages of 1967 and throughout most of next year. By way of contrast only a modest improvement is expected in business fixed investment. The general picture is thus a marked quickening of the pace of economic activity, to the extent that the Administration has called for a surcharge on corporate and personal incomes to keep the expansion from creating and perpetuating undesirable cost-price pressures.

The relatively slack U.S. economy during most of 1967 has tended to limit general imports into that country by reducing the need for industrial materials. At the same time, the developing excess capacity in U.S. manufacturing has allowed domestic production to supply more of the total demand. Finally, the reduced pace of capital outlays has had a restraining effect on imports of capital equipment. With a more expansionary U.S. economy in the offing, it is plausible to project an increase in general U.S. import demand next year.

United Kingdom

The situation in the United Kingdom, Canada's second largest export market, still shows lack of buoyancy, but there are some indications that Britain's long period of economic standstill may be ending and that the trend towards sharply higher unemployment may at least be moderating.

The period of strict restraint on wages and prices ended at the beginning of July, 1967. There was for a time a marked improvement in the merchandise trade balance partly by keeping prices and wages stable throughout most of the period. More recently there has been some deterioration in the trade balance owing to the repercussions from the Middle East situation.

Forecasts made recently by reliable sources suggest a growth rate of 2 to 3 per cent during the second half of 1967 and for 1968. These forecasts rest mainly on the assumption of a modest reflation in the British economy which would allow for a moderate recovery in consumer spending spurred by rising incomes and some relaxation of credit restraints. A continued high level of public spending together with a moderate expansion of exports are seen as further areas of strength.

Nevertheless, the United Kingdom continues to experience balance of payments problems aggravated by developments arising out of the Middle East situation. The scope for a general expansion of import demand therefore continues to be limited.

European Economic Community

The economic recession in Germany was the main factor dampening growth in Canada's third largest export market in 1967. The effects of the German slump were felt in all other E.E.C. countries and particularly in Belgium and the Netherlands. In France, industrial output was stagnant in the first half of 1967 as a result of both weak domestic demand and a slower expansion of exports. In Italy, industrial output continued to rise at a pace close to that of 1966, as the expansion of the internal market, especially in the business capital sector, compensated for the deceleration of exports.

More recently there were signs of an economic recovery from the recession which has afflicted West Germany for the past year. The signs of an impending upturn are still spotty, but unmistakeable. Both monetary and fiscal policy have been geared to stimulating the recovery. The government has passed two special budgets involving a major expansion of public spending while the German central bank has adopted a policy of monetary ease. There are more recent signs of a gradual tightening of the labour market, auto sales are improving and new orders in industry have been rising. Thus while the general expectation does not suggest a major expansion is in the offing, any recovery in the economy of West Germany will help lift the economies of the rest of the Common Market. Moreover, Britain is also counting heavily on an upswing in trade with Germany and the E.E.C. generally.

Japan

The strong expansion in demand and ouput which started in 1966 is still continuing in Japan. In the first half of 1967 industrial production was almost 18 per cent higher than in the corresponding period

a year earlier. The trend of demand is still upward, despite some measures of restraint imposed recently. The main stimuli to the economy are coming from increased plant and equipment investment and higher consumer spending.

The strong pressure of domestic demand has put a strain on Japan's balance of payments. However, economic prospects for the year ahead are still favorable, even if Japan's rate of expansion should be somewhat less rapid than in 1967.

CANADIAN ECONOMIC SITUATION AND OUTLOOK

Situation

Canadian economic activity has been on a continuing upward trend for more than six years and while some slowing in the expansion occurred in 1967, the basic factor in this connection is a transition to a more sustainable rate of growth in an economy which is now essentially fully employed.

The Minister of Finance, speaking in the House of Commons on October 4, 1967 predicted that the gross national product would increase by somewhat more than 7 per cent this year. However, the real rate of growth is likely to be in the order of about 3 per cent, compared with about 6 per cent in 1966.

The Minister of Finance drew special attention to the undesirable increases in prices and costs and urged the cooperation of government, industrial and labour groups in exercising a policy of restraint, in this area. The problem of maintaining Canada's competitive position in the world, now especially important in view of the tariff reductions emanating from the Kennedy Round was particularly emphasized.

The major expansionary sectors of the economy in 1967 were in the area of consumer spending (other than durables), a continued strong rise in government spending at all levels, and in the external sector. Centennial-related expenditures by tourists were particularly significant in improving Canada balance of payments position on current account this year. Merchandise exports were especially buoyant in the first half of 1967.

There was a slackening of demand in the business capital investment sector in 1967 where spending in recent years had been especially buoyant. Expenditures on housing rose as a result of the Government's spring lending program, but for the year as a whole, there was not much increase over the previous year. The durable goods sector was affected by a modest weakening in new car sales. The accumulation of inventories by the business sector contributed very little to the gain in output.

Outlook

The Minister of Finance in his House of Commons Address on October 4, 1967 sounded a fairly optimistic note regarding the economic prospects for the Canadian economy in 1968.

He said, "... there is no suggestion whatever of any downward turn in the future". However, it was emphasized that the immediate outlook was "complicated by the stronger resurgence of spending, prices and incomes in the United States ..."

The general picture for 1968 is for consumer demands generally to increase more strongly and for "government demands for goods and services to increase slightly less than this year." A strong demand for housing is anticipated and more capital availability in this sector is also projected. On the other hand, it is suggested that business capital investment in 1968 may increase little, owing in part to the comparatively low level of corporate profits this year.

World economic conditions on the whole appear to present a more favorable environment for continuing high levels of Canadian export trade, with an anticipated expansion in both the American economy and in the economies of most of Canada's major trading partners. However, certain of the special stimuli which existed in 1967 will perhaps be of diminishing importance in 1968. For example, increases in motor vehicle sales abroad next year under the Canada-United States Agreement are apt to be more moderate than the very large gains that were made in both 1966 and 1967. In addition, special factors involving both copper and crude petroleum may be less important next year. For these, and other reasons, it is possible that the prospective gain in Canada's merchandise exports in 1968 in absolute value terms may not be far out of line with those expected for this year.

AGRICULTURAL SITUATION AND OUTLOOK

World Review and Outlook

Production, Stocks and Trade—In 1966, world agricultural and food production, excluding Mainland China, increased by 3 and 4 per cent respectively over 1965. Food production is estimated to have increased in Western Europe (2 per cent); North America (3 per cent); the Soviet bloc countries (10 per cent); and Oceania (13 per

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cent). Among the developing regions, food production rose only in the Far East (3 per cent) and Near East (2 per cent). In Africa and Latin America, where food production failed to increase in 1965, data indicate a fall of about 1 per cent in 1966.

The main feature of the increase in world agricultural production in 1966 was a rise of 8 per cent in grain output after the slight decline that took place in 1965. For wheat, the increase of 18 per cent came mainly from the very large, record output in Australia, Canada and the Soviet Union. Among coarse grains, the biggest increases were for barley and corn. The increase in barley production was mainly due to larger harvests in Europe, a record crop in Canada and a recovery in the Soviet Union. Total world meat production increased by about 4 per cent, and there were small increases in the production of milk and eggs in 1966.

On a per capita basis, agricultural output, as well as food production, in the world as a whole increased by about 2 per cent but declined by 1 per cent in the developing regions. Thus, the progress made in the developing regions during the previous decade has now been lost. Per capita food production in the developing regions is now lower than in any year since 1957.

World agricultural production in 1967 is expected to increase slightly over the 1966 output. World wheat production estimated at 278 million tons (10.2 billion bushels), is close to the 1966 production of 280 million tons. Coarse grain production is likely to increase in 1967 mainly because of larger crops in North America and Western Europe. An increase in world beef production is probable, especially in the European Economic Community (EEC) countries, and pork production is expected to recover in most areas in Western Europe. World production of oilseeds, oils and fats in 1967 is forecast at an all-time high of 39 million tons (oil equivalent basis) and a record volume of over 11 million tons is also expected to be exported during the year. World butter production, as well as exports, are expected to increase in 1967. Larger butter exports are expected from the EEC countries and Oceania.

Grain stocks on July 1, 1967 in the main exporting countries—the United States, Canada, Argentina and Australia—had increased to about 101 million tons or by 3 per cent from 1966. Wheat stocks, estimated at 37 million tons (1.4 billion bushels), were 9 per cent higher than a year ago. Larger holdings in Canada and Australia more than offset a decline in stocks in the United States and Argentina. Canadian wheat stocks were for the first time much higher than those of the United States. Holdings of coarse grains, estimated at 64 million tons, remained at the 1966 level, although stocks of corn declined slightly. The current grain stocks, combined with large world crops of wheat and coarse grains, should provide bigger total grain supplies for the 1967-68 marketing season than those available in 1966-67. World stocks of other agricultural products continued to rise as a whole, and in the case of sugar and cotton, they increased to unprecedented levels. Butter stocks are also large in the EEC countries.

The value of world trade in agricultural products rose by 2 per cent in 1966 and the growth reflected increases both in trade volume and in price levels. However, much of the gain in export earnings went to North America where, mainly because of increased grain shipments, earnings from agricultural exports increased by 13 per cent during the year. The value of agricultural exports of the Far East, Latin America and Oceania actually declined in 1966. For the developing regions as a whole, agricultural export earnings fell about 2 per cent.

As in the previous years, food imports into the developing countries continued to increase, and reached a value of $4.5 billion in 1966, exceeding the 1965 imports by 4 per cent. Total imports by these countries of all agricultural products amounted to $5.6 billion in 1966, equal to approximately 45 per cent of their receipts from exports of farm products and just over half of their net receipts of foreign assistance in that year.

Prices and Farm Income—The overall level of international prices for agricultural products showed little change in 1966. The 1966 index of world export prices for primary agricultural products was less than 1 per cent higher than in 1965. Prices for food declined by about 2 per cent, while non-food agricultural prices increased by about 4 per cent. In the first half of 1967, the overall price level for agricultural products showed a slow rise, but remained, in general, below the level of the corresponding period of 1966. Prices for grains and dairy products increased but prices for meats and oilseeds declined.

The prices received by farmers in 1966 generally continued to rise although in most of the countries for which data are available the rise was smaller than a year ago. The prices paid by farmers also rose during 1966, and in about half of these countries the ratio between prices received and

prices paid by farmers improved. However, the prices received by farmers did not keep pace with the general cost of living.

Farm incomes improved in some industrialized countries in 1966. As in Canada, there was a large increase in U.S. farm income during the year as compared with 1965. Realized net farm income in the United States rose by 16 per cent in 1966 to a level of $16,300 million, which was the second highest on record. In the Federal Republic of Germany and France, net farm income also increased slightly. However, income developments in 1966 were less favorable in Italy, Britain and the Scandinavian countries.

Policies and Development Plans—In the United States there were fewer agricultural policy developments than usual, the Food and Agricultural Act of 1965 having set the main lines of policy until 1969. The Food for Peace Act came into effect in January 1967, extending Public Law 480.

Closely related to the provisions of the Food for Peace Act are measures taken to relax some of the long-standing brakes on the expansion of agricultural production. The national acreage allotment for wheat for 1967, for instance, was raised to 68.2 million acres, thus enabling farmers to increase wheat plantings under guarantee. For 1968, however, the acreage allotment has been reduced by 13 per cent, or to 59.3 million acres. For farmers complying with the program, the loan rate for 1968 is to be maintained at $1.25 per bushel for wheat, as in 1967, which remains as the minimum guaranteed return to the farmer. Domestic marketing certificates again are to be issued for an amount equal to the expected domestic consumption of wheat for food, estimated at 530 million bushels for the 1968-69 season. The average wheat certificate payment to producers participating in the 1967 program is 48¢ per bushel.

The level of price support for feed grains was increased for the 1967 crop. Farmers were again required to divert at least 20 per cent of their base acreage to be eligible for price support payments and loans, but voluntary acreage diversion for payment was eliminated except on small farms, and there was no acreage diversion program for barley. For soybeans the increased price support rate introduced for 1966 has been continued for the 1967 crop.

The higher support levels introduced in 1966 for certain dairy products are being continued until the end of the 1967-68 marketing year. From July 1, 1967, import quotas have been placed on a number of dairy products for the first time. The new quotas are expected to bring U.S. imports of dairy products down to a level of 1 billion pounds of milk equivalent. This will represent approximately 1 per cent of domestic milk production.

In Western Europe agricultural policies have continued to be based on the general aim of securing, for the farm population, levels of living comparable with those of other groups. Additional grants and loans on special terms have been made available in several countries including Belgium, France, the Netherlands and Britain, to facilitate investment in agriculture, in particular the formation of larger units, and financial inducements of various kinds given to encourage early retirement of farmers, especially those whose farms are suitable for consolidation purposes or for withdrawal from agricultural use.

Marketing problems have also received increasing attention. The European Economic Community (EEC) made further progress in the formulation of the Common Agricultural Policy which will come into full operation on July 1, 1968. Single or common prices for grains and oilseeds and market regulations for fats and oils, pigmeat, poultry meat and eggs were implemented on July 1, 1967.

In Britain, features of the Agriculture Act, 1967, are the establishment of a Meat and Live Stock Commission, with attendant changes in subsidy arrangements for cattle and the promotion of more efficient production and marketing of meat. Grants for the improvement of agricultural land and in respect of equipment and machinery are included in the Act, and special attention is given to increasing the productivity of hill land. Provision is also made for farm amalgamations and the payment of lump sums and annuities for outgoing farmers.

In Latin America, the Brazilian Government is formulating a comprehensive 10-year plan, and is also implementing a diversification program to reduce the country's dependence on coffee. In Argentina, the Government has emphasized that agriculture is the foundation of economic development in that country, and that the aim in future would be to export as much as possible, with the domestic market consuming the remainder, instead of (as in the past) first meeting domestic demand and then exporting what was left. In Mexico, a five-year plan (1966-70) for the agricultural sector is now in operation under which self-sufficiency in food is expected by 1968. In the Far East, India's draft fourth five-year plan (1966-67/1970-71 gives a pivotal role to the so-called High-Yielding Varieties Program, which is planned to cover 32 million acres by the end of the fourth plan. Greater emphasis is being given to

the import of foreign breeds of livestock in order to increase milk yields by crossing with indigenous breeds.

Canadian Farm Production and Income

Farm Production—A preliminary estimate indicates that the index of farm production for Canada for 1967 will be between 10 and 15 per cent below the record level of 182.8 (1949=100) established in 1966. This decline is attributable for the most part to a substantially smaller Prairie grain crop in 1967 than in 1966 and, to a lesser extent, to reduced output of potatoes, sugar beets, flaxseed, cattle and dairy products. Offsetting these reductions to some extent was an increase in the production of poultry products and hogs.

Farm Cash Receipts—Information currently available indicates that farm cash receipts from the sale of farm products may reach $4.4 billion in 1967, slightly above the figure of nearly $4.3 billion realized in 1966. Contributing most to this gain were participation payments made by the Canadian Wheat Board early in the year on 1965 crops of wheat, oats and barley. From a total of $229.3 million in 1966, these payments rose to $311.8 million in 1967 as a result of an increase in both the per bushel payments and the marketings on which the payments were made. Although total farmers' marketings of wheat in 1967 are expected to be slightly below 1966 levels, total cash returns at time of delivery should be above 1966 levels because of the increase in the initial payment from $1.50 per bushel for No. 1 Northern at the Lakehead, to $1.70 per bushel from August 1. A substantial increase in total cash receipts to producers of tobacco reflects a situation in which increased demand in recent years has resulted in higher prices and expanded production.

Of all the field crops, potatoes and flaxseed displayed the greatest reduction in farm cash receipts during 1967. Farmers' prices of flaxseed have remained at the 1966 level but, because of lower marketings, cash receipts declined. A substantial increase in potato production in 1966 was reflected in increased marketings during the first part of 1967. However, production in 1967 declined sharply, and marketings in the second half of 1967 are expected to be lower than a year ago.

Cash receipts from the sale of livestock and livestock products in 1967, which account for more than one-half of farmers' total cash returns from farming, were forecast to be above 1966 levels because of gains from cattle, dairy products and poultry meat. Higher prices for cattle more than offset lower marketings, while the rise in total cash receipts from poultry meat can be attributed for the most part to increased production.

Farm dairy production is expected to be at approximately the same level as a year ago, but average plant-paying prices have increased with the result that total market returns have been higher in 1967 than in 1966. In addition, substantial subsidy payments were made directly by the federal and provincial governments to dairy farmers during the first quarter of the year, and since then by the new Canadian Dairy Commission.

Marketings of both hogs and eggs throughout 1967 were higher than they were in 1966, but prices averaged well below those of 1966 with the result that total cash receipts from each of these products were lower.

Farm Operating Expenses—Farm operating expenses and depreciation charges continued to advance in 1967, partly as a result of a general increase in the level of prices paid by farmers for goods and services used on the farm. The only item of expenditure for which no increase was recorded was rent. This expenditure was lower in 1967 than in 1966 as a result of the sharp reduction in grain production in Western Canada and its consequent effect upon share rental payments. The use of chemical fertilizers has become widespread and intensive in recent years, and it is expected that this trend continued in 1967. Shipments of manufactured livestock and poultry feeds increased again in 1967 and prices rose. Petroleum product prices were higher in 1967 than in 1966 and farmers' expenditures for machinery and repair parts were up. Employment in agriculture did not vary much between 1966 and 1967 but wage rates rose quite substantially. With interest rates climbing and the use of credit increasing, farmers' outlay for the servicing of debt continued to rise.

Net Income—The gain in total cash receipts in 1967 is expected to be greater than the increase in farm operating expenses, so that realized farm net income from farming operations in 1967 is forecast to be slightly above the 1966 level. On the other hand, total net income from farming operations, which includes inventory changes, is expected to be well down from that of a year ago because of the substantial reduction in the output of grain in the Prairie Provinces. When the value of this inventory decrease is deducted from realized net income, total net income may be down to $1.6 billion, as against almost $2 billion in 1966.

Farm Income Prospects for 1968—Total cash receipts from farming operations are expected to be higher in 1968 than in 1967. Although wheat marketings may not be maintained at the 1967 level because of possibly lower sales on the export market, cash returns to farmers at time of delivery are expected to equal or exceed those of a year earlier because of the increase in the initial price to farmers which will be in effect until at least the end of the current crop year. Canadian Wheat Board participation payments may exceed the substantial amounts paid out in 1967; the payments in 1968 will be based on the 1966 crop marketings which were well above the level of marketings from the 1965 crop, the basis of the 1967 payments. Maintenance of the strong demand for tobacco may be reflected in increased acreage and production during the coming year and a consequent further addition to income from this source. Cattle marketings are not likely to vary significantly from those of 1967 and prices should remain favorable. The hog situation is rather uncertain but there is some tendency for marketings to ease downward and, possibly by the end of the year, there may be some strengthening of prices. Milk production is not likely to change much but overall average prices may be up. Supplies of eggs may remain excessive until mid-1968 after which there may be some decline in output and rise in prices. Poultry meat production will likely continue to increase but at a slower rate and, as a consequence, prices may be up somewhat. Farm expenses will continue to rise as they have in the past so that realized net income may be approximately equal to the level estimated for 1967.

AGRICULTURAL EXPORTS SITUATION AND OUTLOOK

Canada is the world's fourth largest exporter of farm products. About one-third of Canada's agricultural production is exported. Our agricultural exports currently average about $1.8 billion per year with products moving to about 130 countries. While exports have shown appreciable fluctuations in recent years the trend is upwards and the current value is a little more than 70 per cent above the average value of the early 1950's.

While total agricultural exports continue to increase gradually, the relative importance of agriculture in total Canadian exports is progressively declining. In 1966, agriculture's share of total exports was 18.5 per cent as compared with about 21.5 per cent a decade earlier.

Destination of Farm Exports

Markets for Canadian farm exports are also showing significant changes. The concentration of our exports in only a few markets, while still high, has shifted noticeably in recent years. Since wheat continues to make up well over half of Canada's agricultural exports, its role in explaining these changes is apparent. In terms of current value, the chief importer of Canadian agricultural products is still the United Kingdom, taking roughly 17 per cent of the total in 1966. However, a decade earlier this market absorbed 31 per cent of the total. During the same period the share of total farm exports to the United States fell from a little more than 20 per cent to 15 per cent. The proportion going to the European Economic Community declined appreciably during the early 1960's but has held at a more stable 11 to 12 per cent over the past three years. Today, the Soviet Union, Mainland China and Eastern European countries take approximately 25 per cent of our farm exports whereas a few years ago they took practically none. Exports to Japan on the other hand, have constituted a relatively stable 7-9 per cent share of the total over the past decade indicating a progressive growth in absolute terms of our exports to that market. Food aid to the developing countries represents a growing outlet for farm products but its importance as a demand factor depends upon the willingness and capacity of governments to contribute.

Composition of Exports

The actual composition of the agricultural export basket is not changing significantly but the sharing of total exports between various commodity groups has in some cases shifted noticeably. Wheat as noted remains the dominant item. Oilseed exports, negligible a few years ago, now account for roughly 6 per cent of farm exports and comprise the second largest item in the agricultural package. Wheat flour ranked third in importance in 1966 but its share of total exports is dropping progressively from a little more than 7 per cent a decade ago to around 4½ per cent in 1966.

Live animal exports show wide annual fluctuations but there appears to be a tendency in recent years for this category to increase in importance and in 1966 it made up 4.2 per cent of the total, ranking as the fourth largest commodity group. In particular, the trade in feeder and slaughter cattle to the United States is tending to increase. Meats and meat preparations are becoming marginally more important, ranking fifth in 1966. The value of tobacco exports in the past decade has more than doubled and

has increased significantly in relation to the total. Coarse grain exports are declining relatively in the face of increasing competition from corn.

The Kennedy Round and Agriculture

As mentioned above, the annual value of Canadian farm exports is about $1,800 million. A little more than $1,200 million is accounted for by wheat, wheat flour and coarse grains. The largest component is of course wheat which amounts to about $1,000 million. Agricultural products other than cereals make up about $600 to $700 million in exports. About half of this now enters world markets free of duty and was not affected by the recently concluded trade negotiations under the General Agreement on Tariffs and Trade (Kennedy Round). The balance, sold largely to the United States, represents the export volume of non-cereal products on which tariffs and other barriers to trade were subject to negotiation in the Kennedy Round. Tariff concessions of benefit to Canada were negotiated on about $110 million of this. In total then, of $1,800 million of Canadian agricultural exports, benefits were received as a result of the negotiations on about $1,110 million or 63 per cent.

On the import side, agricultural products amount to about $1,000 million. Of this slightly less than half enters Canada duty-free at the present time. This is divided about equally between the United States and Commonwealth sources. With the deduction of imports of sugar and coarse grains (largely corn) from dutiable imports, as they did not form part of the negotiations, the volume of dutiable imports remaining for possible tariff reductions was about $420 million. Of this amount Canada made tariff concessions on about $200 million. To this figure must be added the value of exporter commitments undertaken as part of the new grains agreement, in order to determine the over-all Canadian contribution to the negotiations.

Because of the major importance of the United States in our export trade, the Canadian negotiations on agricultural products other than cereals were conducted largely with that country. Negotiations with other countries, principally the European Economic Community, the Nordic countries, Japan and Switzerland, because of the nature of Canadian agricultural exports to these countries, focused mainly on a few individual commodities in contrast to the broad coverage of the negotiations with the U.S.A. Tariff reductions of benefit to Canada from these countries covers trade amounting to about $15 million.

Canada's dutiable agricultural exports to the U.S.A. in 1966 amounted to about $225 million. On $95 million of this dutiable trade, the U.S.A. has cut tariffs by an average of 60 per cent including about $29 million on which the tariff has been cut to zero. The major products, exports worth $1 million or over in 1966, on which these cuts were negotiated are as follows: (a) free entry—maple sugar and maple syrup, fresh apples, fresh raspberries, turnips, a number of grass and forage seeds, cattle hides and skins, bran, shorts and middlings, brewers' grains, grain screenings and other grain milling by-products and animal feeds; (b) 50% tariff reduction—fresh and frozen pork, dairy cattle, fresh and frozen blueberries, currant and berry jams and jellies, fresh carrots, other grass and forage seeds, mustard seed and sunflower seed.

The balance of the $225 million i.e. $130 million on which tariff reductions were not negotiated with the U.S.A. is accounted for by live beef cattle, fresh and frozen beef, coarse grains, potatoes and cured pork. No duty reductions were made in the corresponding items in the Canadian tariff.

As regards imports coming into Canada, most of the reductions in the Canadian tariff were made as a result of negotiations with the U.S.A. and apart from tropical products, tariffs were reduced on only a small number of products as a result of agreements with other countries. This of course reflects the small agricultural component in our trade with these countries.

The largest import items on which reductions in the Canadian tariff were made viz-a-viz the U.S.A. relate to citrus juices, fresh pork, grass and forage seeds, apples, feeds, cigar wrapper tobacco, hops, animal fats, dried vegetables, certain fresh vegetables and a number of non-competitive products such as rice, raisins, and processed coffee.

As a general outcome of the Canada-U.S.A. negotiations in the Kennedy Round, after the full implementation of the tariff reductions negotiated, about 30 per cent of Canadian agricultural exports to the U.S.A. will enter that country duty-free and the average U.S. duty on the balance of our agricultural exports will be only about 6 per cent.

On the Canadian side, the average rate on dutiable agricultural imports from the U.S.A. will be about 9 per cent after full implementation of the Kennedy Round results with about 45 per cent of U.S. exports entering Canada duty-free.

In the United Kingdom market the main results were an improved position for wheat on the one hand and on the other hand a narrowing of the preference enjoyed by Canadian exports on about

$70 million or about 45 per cent of our preferential trade. The most important products in terms of export value affected are soybean oilcake and meal, soybeans, fancy meats, dried beans, tomato juice, canned and frozen corn and tobacco. It should be noted however that the general level of preference remaining on most of our agricultural exports to the U.K., after the negotiated rates are put into effect, will be about 10 per cent.

It was agreed that the tariff concessions would come into effect over a four-year period on the basis of either of two alternative plans—20 per cent of the total reduction beginning January 1, 1968, and a similar cut on the same date on each of the next four years, or 40 per cent of the total reduction commencing July 1, 1968, 20 per cent commencing January 1, 1970, and a further 20 per cent on that date in each of the next two years. The United States proposes to adopt the first alternative, whereas the United Kingdom and Japan will be accepting the second. In Canada, some of the concessions will be implemented in a single step not later than July 1, 1968. Concessions which are not implemented in one step will be staged over a period not exceeding four years beginning January 1, 1968.

Negotiations on Grains

World trade in wheat has over the past 17 years been conducted in accordance with the provisions of successive International Wheat Agreements. The IWA of 1962, scheduled to expire on July 31, 1965, was twice extended for one year periods in anticipation of a broader grains agreement being negotiated in the Kennedy Round. The principal wheat exporters opposed a continuation of the 1962 price range—approximately Cdn. $1.74½-$2.17½ for No. 1 Northern in store at the Lakehead—beyond July 31, 1967. The view was that this range no longer reflected current conditions and in any event negotiations were proceeding in Geneva for a higher price range. Governments agreed to extend only the administrative provisions of the 1962 IWA until a new agreement came into effect.

The Kennedy Round negotiations succeeded in reaching agreement on a higher range of minimum and maximum prices—approximately Cdn. $1.95½-$2.38½ for No. 1 Northern in store at the Lakehead. This represents a 21¢ per bushel increase in both the minimum and maximum price for No. 1 Northern over the range of the 1962 IWA. The agreement also includes a more comprehensive schedule of prices which includes important classes of wheat from all major exporters. In addition, both importing and exporting countries agreed to contribute a specified quantity of grains for human consumption —in cash or in kind—to a food aid program. The total annual commitment is 4.5 million metric tons of which Canada will supply 11 per cent. Acceptable access commitments by importing countries and the inclusion of specific provisions covering international trade in coarse grains in the agreement did not prove to be negotiable.

There are complex, technical questions involved in precisely describing the new price schedule but the following are the essential points. U.S. No. 2 Hard Red Winter Wheat (ordinary protein) was chosen for the base grade instead of Manitoba No. 1 as in the old IWA. The minimum and maximum prices for other wheats have been related to this base. The advantages in this choice are that Gulf Ports are open for navigation the year round, and that Hard Red Winter No. 2 is a wheat which trades in volume, with a quality that places it about the middle of the price range of the various wheats in the schedule.

Separate minimum and maximum prices were established for Pacific Ports. These will be 6¢ per bushel less than the U.S. Gulf Port price schedule.

Following the conclusion of the Kennedy Round negotiations, an International Wheat Conference was convened in Rome under the auspices of the International Wheat Council. The purpose of this Conference was to negotiate a successor agreement to the IWA of 1962 taking account of the Kennedy Round results, and to bring other countries which did not participate in the Geneva negotiations into the agreement. This Conference agreed on the text of an International Grains Arrangement consisting of two legal instruments—a Wheat Trade Convention and a Food Aid Convention. The Conventions incorporate the price and food aid provisions negotiated in the Kennedy Round, and are scheduled to take effect for three years from July 1, 1968. Both Conventions are open for signature from October 15 to November 30, 1967. The deadline for the deposit of instruments of ratification is June 17, 1968 for the Wheat Trade Convention and July 1, 1968 for the Food Aid Convention.

Outlook

The Economic Council of Canada, in its report on Economic Goals for Canada published in 1964, stated that indications were that Canadian agricultural exports will grow more slowly than non-agricultural exports. It projects that Canada's export potential for both agricultural and non-agricultural products by 1970 will be close to 45 per cent above the volume attained in 1963 or an average annual

growth rate of 5.3 per cent. A breakdown of the rate shows an average annual rate of growth of 6.2 per cent for non-agricultural exports and 1.5 per cent for agricultural exports. A higher growth rate is foreseen for products in the non-grain group (including fisheries products) because of greater trade promotional possibilities and of anticipated higher levels of income in foreign markets. A rate of growth in volume of these exports between 1963 and 1970 of 3.5 per cent per annum is considered reasonable.

The rate of growth of farm exports in the first six months of 1967 was running slightly ahead of the same period in 1966. However, there has been a distinct slackening of exports in some major categories in recent months which indicates that our agricultural export performance for the year 1967 will probably fall short of the average rate of growth in current value terms over the past few years.

Over the past year there has been a general weakening in world economic growth and this has resulted in a simultaneous weakening of over-all demand in several important countries. More recently, however, positive signs have appeared which indicate that an economic recovery may be in the offing. The review of the General Economic Situation and Outlook suggests that on the whole, world economic conditions appear to present a more favorable environment for continuing high levels of Canadian export trade, with an anticipated expansion in both the U.S. economy and in the economies of most of Canada's major trading partners. While exports of agricultural products do not respond as sharply to these changing conditions as non-agricultural products, the outlook is influenced by these developments particularly in view of the dominant position of the United States in our trade in the non-cereals sector.

To these generally favorable circumstances must be added the improved export possibilities arising out of concessions obtained in the Kennedy Round. Although it did not prove possible to reach agreement on access assurances for wheat, coarse grains, dairy products and meats, an important step has been made in bringing subsidies and domestic support policies under international scrutiny. These commodity problems will be central to future discussions of trade liberalization. At the same time, while agricultural tariffs in a number of countries remain high and important non-tariff barriers continue in existence, these negotiations did result in the reduction of a wide range of agricultural and industrial tariffs, a new International Grains Arrangement and a new anti-dumping code designed to improve and standardize the use of anti-dumping measures.

In spite of the fact that the negotiated tariff reductions will not be fully in effect for another four years, they should nevertheless go some way towards contributing to a continued expansion in our agricultural export trade. Export expansion does however depend on a variety of factors including marketing conditions, the rate and pattern of economic growth in our markets and changes in trade, economic and commercial policies. Also, the effects on our exports of the improved access opportunities offered through the Kennedy Round will of course depend to a large extent on the ability of the various sectors of the agricultural industry to take advantage of these gains.

AGRICULTURAL INPUT SITUATION AND OUTLOOK

Farm Structure

The number of "census farms" decreased from 623,091 in 1951 to 480,903 in 1961 and to 430,522 in 1966. Of these, the number of "commercial farms" (sales of $2,500 and over) increased from 235,090 in 1951 to 259,037 in 1961 and to 276,835 in 1966. This increase was due entirely to the growth in the number of farms with annual sales of $5,000 and over, and especially of those with sales of $15,000 and over. In the last five years the number of farms with sales of $15,000 and over more than doubled to 50,800. Whereas only 37.7 per cent of all farms were commercial farms in 1951, the proportion of commercial farms rose to 53.9 per cent in 1961 and to 64.3 per cent of total farm numbers by 1966 (Table 1). As commercial farms are defined on a value-of-sales basis, the increase in their number is undoubtedly partly the result of higher prices for farm products. Between 1960 and 1965, these prices rose by 12 per cent.

The average size of census farms increased from 279 acres in 1951 to 404 acres in 1966, while the average size of commercial farms advanced from 421 acres to 512 acres. The proportion of total farm land operated by commercial farmers increased from 56.8 per cent in 1951 to 81.5 per cent in 1966.

The total number of farms in Canada is expected to continue to decrease, while the number with sales in excess of $5,000 will continue to increase. Projection of past trends indicate that by 1971 there will be approximately 390,000 farms in Canada and about 300,000 of these will be commercial farms, of which over 100,000 farms will have annual sales of $15,000 and over. On this basis by 1971, over 75

per cent of all farms will be commercial farms and over 25 per cent of all farms will have sales of $15,000, or over (Table 2). Similarly, it is anticipated that by 1971 the average size of commercial farms will be about 535 acres, and that about 90 per cent of all farm land in Canada will be in commercial farms.

The proportion of Canadian farm operators owning all or part of their land has increased from 92 per cent in 1951 to 95 per cent in 1966. Farmers on the Prairies rent land more than operators in other regions of Canada and the 1966 census indicates that the proportion of Prairie farmers renting land in addition to their own land declined slightly between 1961 and 1966. As a result, the proportion of farmers who are part owners-part tenants has apparently reached a plateau at about 30 per cent, and will decline if more farmers come to own all the land they operate. In spite of the fact that farm rental arrangements might ease the problem of farm operators having to provide large amounts of capital, ownership is on the increase.

Specialization on farms has been increasing rapidly during the past 10 years. The number of farms reporting 18 or more milk cows increased about 40 per cent between 1956 and 1966 and amounted to about 53,000 farms in the latter year. These represent 9.5 per cent of all farms reporting milk cows in 1956 and 23.8 per cent in 1966. Similarly, farms reporting 48 or more cattle, 48 or more

TABLE 1—NUMBER AND PER CENT OF CENSUS FARMS BY ECONOMIC CLASS, CANADA, 1951, 1961, 1966

Economic class by dollar value of sales of farm products	1951		1961		1966	
	Number of census farms	Per cent of census farms	Number of census farms	Per cent of census farms	Number of census farms	Per cent of census farms
15,000 and over	8,649	1.4	23,918	5.0	50,815	11.8
10,000—14,999	12,594	2.0	25,923	5.4	44,217	10.3
5,000— 9,999	69,019	11.1	90,419	18.8	96,856	14.5
3,750— 4,999	53,162	8.5	49,754	10.3	37,923	8.8
2,500— 3,749	91,666	14.7	69,023	14.4	47,024	10.9
Commercial farms	235,090	37.7	259,037	53.9	276,835	64.3
1,200—2,499	151,290	24.3	94,256	19.6	60,947	14.2
250—1,199	148,962	23.9	82,946	17.2	55,271	12.8
Less than 250	87,057	14.0	43,850	9.1	36,692	8.5
Small scale farms	387,309	62.2	221,052	45.9	152,910	35.5
Institutional farms	692	0.1	814	0.2	777	0.2
Total farms	623,091	100.0	480,903	100.0	430,522	100.0

Source: *Census of Canada*, Agriculture, Dominion Bureau of Statistics.

TABLE 2—ESTIMATED NUMBER OF FARMS, CANADA, 1967-1971.

	All farms	Commercial farms		Farms with sales over $15,000	
		Total number	Per cent of all farms	Number	Per cent of all farms
	number		per cent	number	per cent
1967	422,000	281,000	67	58,000	14
1968	414,000	285,000	69	67,000	16
1969	405,000	290,000	72	77,000	19
1970	398,000	294,000	74	89,000	22
1971	389,000	298,000	77	102,000	26
			per cent		
Estimated rate of change compounded annually	−2.0	+1.5		+15.0	

hogs or 1,000 or more hens and pullets increased in number by 85, 58 and 180 per cent respectively. The increases in average numbers of livestock per farm reporting between 1956 and 1966 were as follows: milk cows, from 7.9 to 12.1; cattle, from 24.4 to 41.1; hogs, from 16.5 to 35.0; and hens and pullets, from 184.4 to 427.8.

Farm Input Structure

The input mix in agricultural production has been changing in total volume as well as in composition. Inputs are usually grouped into three major categories: real estate, labor, and capital. The capital input category is defined as purchased feed and seed, fertilizers and limestone, operating expenses for machinery and equipment, and other miscellaneous items, as indicated in the footnotes to Table 3. Over the past two decades capital inputs showed the most rapid increase. Real estate inputs increased slightly, and labor inputs declined sharply.

The index for real estate inputs (1949=100) rose from 100 for the 1947-51 period to 114 in 1962, declined somewhat to 1964 and reached its highest level of 115 in 1966. The average annual growth rate for the 1947-66 period was 0.5 per cent. This is in contrast with a 1 per cent increase in 1966.

The farm labor index declined from 98 for 1947-51 to 61 in 1962 and further to 50 in 1966. A very considerable decline occurred in the years 1964 to 1966. The 20-year average rate of decline was 3.8 per cent, compared with a rate of 4.4 per cent for the 1962-66 period, and 8.4 per cent for 1966.

The index for capital inputs rose from 103 in 1947-51 to 135 in 1962, and to 168 in 1966. Hence, expansion of capital inputs in the four years after 1962 equalled that in the 15 years preceding 1962. The average annual growth rate was 2.6 per cent for the 1947-66 period, 4.9 per cent for 1962-66, and 5.8 per cent for 1966. Of all capital inputs fertilizer and lime expanded most rapidly with an average annual growth rate of 12.6 per cent for the 1962-66 period. The respective rate for purchased feed and seed was 7.6 per cent, for machinery and equipment 3.9 per cent, and for the remaining miscellaneous capital items, 1.2 per cent.

The composite index for all production inputs declined from 100 in 1947-51 to 95 in 1962, then increased gradually and again reached 100 in 1966. This trend indicates that the reduction in labor inputs was more than offset by the expansion in capital inputs during the past five years. The average annual growth rate of the input aggregate amounted to 1.2 per cent for the 1962-66 period; in 1966 it was only 0.9 per cent.

The relative changes in the volume of individual input categories, in constant value terms, are reflected by changes in their relative shares of total inputs. The 1947-51 average indicates a composition of 33 per cent capital inputs, 47 per cent labor, and 20 per cent real estate. By 1966, the capital share had risen to 53 per cent, and labor had declined to 24 per cent; real estate inputs remained about the same at 23 per cent. In 1966, 22 per cent of total inputs was accounted for by machinery and equipment, 17 per cent by purchased feed and seed, and 4 per cent by fertilizer and lime (Table 4).

While the real estate input share is likely to remain fairly stable, it is anticipated that capital inputs will continue to replace labor in the future.

Operating Expenditures

Total farm operating expenses, in current value terms, increased from $1,823 million in 1962 to $2,424 million in 1966. This 1962-66 average annual increase of 7.4 per cent compares with a rise of 8.2 per cent in 1966. Considerable expansion in current outlay occurred in 1966 for machinery, fertilizer and lime, feed and other livestock expenses, and for interest payments on borrowed funds. Taxes on farmer-owned land and buildings rose in 1966 by 3.5 per cent. Farm labor cost rose by only 1.9 per cent, costs of electricity and telephone also increased by 1.9 per cent, and building repair cost increased 5.0 per cent. In 1968, current expenditures are likely to expand further and could possibly reach a level of $2,700 million to $2,800 million.

New Investment in Construction and Machinery

Farm expenditures for construction totaled $184 million in 1962, compared with $205.9 million in 1965 and $218.1 million in 1966. The 1962-66 average annual increase was 4.3 per cent. Expenditures for machinery and equipment rose 13.5 per cent annually from $442.3 million in 1962 to $731.6 million in 1966. Total depreciation for buildings and machinery increased from $404.9 million in 1962 to $532.5 million in 1966, or by 7.1 per cent annually. Thus, net investment on capital account increased from $221.4 million in 1962 to $417.2 million in 1966, or by 17.5 per cent annually; the 1965-66 increase was 6.3 per cent. Gross capital expenditures are expected to expand further in 1967 and 1968, though at a diminishing rate.

TABLE 3—INDEXES OF PRODUCTION INPUTS, CANADIAN AGRICULTURE (EXCLUDING NEWFOUNDLAND) BY SELECTED CATEGORIES, AND AVERAGE ANNUAL CHANGES, SELECTED PERIODS, CANADA, 1947-1966 (1949 = 100)

	Real Estate [a]	Labor [b]	Capital					Total Production Inputs
			Machinery and Equipment [c]	Purchased Feed and Seed [d]	Fertilizer and Limestone	Other [e]	Total Capital	
1947-51 [f]	100	98	100	109	97	104	103	100
1952-56 [f]	102	78	121	101	108	117	114	94
1957-61 [f]	108	66	122	132	131	142	129	94
1962	114	61	126	131	168	154	135	95
1963	113	60	130	141	189	165	143	97
1964	112	58	134	155	226	169	151	98
1965	114	55	140	171	244	165	158	99
1966	115	50	146	189	278	164	168	100
1962-66 [f]	114	57	135	157	221	164	151	98
	per cent							
Average Annual Changes: [g]								
1947-1966	+0.5	−3.8	+2.9	+ 2.7	+ 6.6	+2.6	+2.6	−0.5
1962-1966	+0.5	−4.4	+3.9	+ 7.6	+12.6	+1.2	+4.9	+1.2
1965-1966	+1.0	−8.4	+4.4	+10.5	+14.2	−1.1	+5.8	+0.9

[a] Includes interest on investment, depreciation and repairs on buildings; property taxes and fencing (all for both owned and rented real estate).

[b] Includes farm operators, unpaid family labor and hired farm labor.

[c] Includes fuel and other purchased items associated with machinery operation plus interest on investment and depreciation.

[d] Includes both farm and non-farm portions of feed, and seed purchased from the non-farm sector plus nursery stock.

[e] Includes electric power, interest on investment in livestock and on livestock purchased (feeders) from the non-farm sector, artificial insemination fees, breed association fees, veterinary services and supplies, custom work by non-farm operators, telephone, insurance, pesticides, containers, twine, irrigation charges and other miscellaneous purchased inputs.

[f] Annual average.

[g] Represents the weighted average of all annual changes for the respective periods.

Source: See Table 4.

TABLE 4—DISTRIBUTION OF PRODUCTION INPUTS, CANADIAN AGRICULTURE (EXCLUDING NEWFOUNDLAND) BY SELECTED CATEGORIES, SELECTED PERIODS, CANADA, 1947 TO 1966 (VALUED AT 1949 PRICES) [a]

	Real Estate	Labor	Capital					Total Production Inputs
			Machinery and Equipment	Purchased Feed and Seed	Fertilizer and Limestone	Other	Total	
	per cent of total production inputs							
1947-51	20	47	16	10	1	6	33	100
1952-56	21	40	20	10	2	7	39	100
1957-61	22	34	20	13	2	9	44	100
1962	24	31	20	13	2	10	45	100
1963	23	30	21	13	3	10	47	100
1964	23	29	21	14	3	10	48	100
1965	23	27	21	16	3	10	50	100
1966	23	24	22	17	4	10	53	100
1962-66	23	28	21	15	3	10	49	100

[a] In this table the same footnotes apply as in Table 3.

Note: The percent distribution in this table was arrived at by calculating the value of each input category for each year or period, at constant prices, aggregating all inputs for that period, and then relating individual input categories to the total. Detailed information on methodology of computing productivity estimates can be found in I. F. Furniss, Trends in Agricultural Productivity, *Canadian Farm Economics*, Volume 2, Number 1, April 1967, pp. 15-21.

Source: The basic data used in computing Tables 3 and 4 were obtained from the Farm Finance Section, Agriculture Division and the Prices Division, both of the Dominion Bureau of Statistics.

Prices of Commodities and Services Used by Farmers

The all-Canada composite index of commodities and services used by farmers increased by 3.8 per cent from January to April 1967 and by 4.7 per cent between April 1966 and April 1967. Exclusive of the living cost component, increases were 4.6 and 5.2 per cent respectively. The all-Canada farm wage rate index increased by 10.8 per cent between January and April, the western series rising 18.4 per cent and the eastern series by 5.6 per cent. The equipment and materials index for Canada was 1.1 per cent higher in April than in January and 3.4 per cent higher than in April 1966.

The Kennedy Round should have a beneficial effect on farm input prices. Although most agricultural machinery imports already enter Canada duty-free, tariff reductions resulting from the Kennedy Round tariff negotiations may reduce the price of some inputs when the new rates are implemented. Duty on fencing materials will be cut in half, water-pumps and manufactures of iron and steel such as poultry feeders and waterers, gates, doors, milk parlour stalls and haying equipment will enter at 17½ per cent duty instead of at the present 22½ per cent rate. The rate will also be reduced on many other equipment inputs. The duty on some feeds for livestock and poultry and on feed ingredients including chemicals will be reduced from 20 per cent to 5 per cent. The duty of from 2 to 10 per cent levied on imports of grass and forage seed will be eliminated.

With respect to prices for particular inputs in 1968, it appears that lower prices for corn, barley and soybeans should result in feed prices being maintained at, or even slightly lower than, 1967 levels. Fertilizer prices are expected to remain close to 1967 prices. On the other hand, farm wage rates will continue to rise. Further, the greater mobility of labor between farms and urban centers means that in order to compete for labor it will become increasingly necessary for farmers to provide fringe benefits to attract the kind of labor required. Land prices will continue to increase, although not likely as much as in recent years. The price of credit will be higher in 1968. On balance it would seem that price increases for goods and services purchased by farmers in 1968 will be about the same as those of 1967. Continued improvement in farm structure and operating efficiency will help to offset the effects of the continuing cost-price squeeze.

Farm Labor

Employment of all persons on farms (including operators) averaged 556,000 for the January to August period of 1967, compared with 549,000 for the same period of 1966, as shown in Table 5. With an easing in the tight demand situation for labor that was experienced in Canadian industries generally in 1966, and some increase in total unemployment, the supply of labor available to agriculture has risen slightly and the long-term trend of workers moving out of agriculture to other industries appears to have been at least temporarily halted.

Agricultural employment has shown very little change betweeen 1966 and 1967 on a regional basis, as indicated in Table 5. Similarly, by class of worker there was little change except for some increase in the number of unpaid family workers. Data presented in Table 6 indicate that the number of paid workers on farms averaged 103,000, from January to August in 1967, remaining at about the same level as it has since the mid-1950's.

TABLE 5—EMPLOYMENT IN AGRICULTURE, INCLUDING SELF-EMPLOYED, AVERAGES OF MONTHLY SURVEYS, CANADA, BY PROVINCES, 1962-1967

	Annual Averages					January to August	
	1962	1963	1964	1965	1966	1966	1967
	thousand						
Atlantic	44	34	38	34	32	32	28
Quebec	132	124	114	116	106	110	113
Ontario	158	172	160	151	140	144	146
Prairies	299	300	296	271	240	236	242
British Columbia	27	18	22	22	25	27	27
CANADA	660	648	630	594	543	549	556
Employment in agriculture as per cent of all industries	10.6	10.2	9.5	8.7	7.6	7.7	7.6

Source: Labour Force Surveys, Dominion Bureau of Statistics, Ottawa.

TABLE 6—EMPLOYMENT IN AGRICULTURE, BY CLASS OF WORKER, CANADA, SELECTED PERIODS, 1954-1967

	Total	Farm Operators	Unpaid Family	Paid
	thousand			
1954-58[a]	786	519	163	104
1959-63[a]	667	426	133	108
1964	630	397	134	99
1965	594	363	126	105
1966	543	335	110	98
1967[b]	556	332	121	103

[a] Annual average.
[b] January to August.
Source: Labour Force Surveys, Dominion Bureau of Statistics, Ottawa.

Farm wage levels continued to rise and according to Dominion Bureau of Statistics estimates for May 1967, averaged $251 per month without board (Canada average) compared with $225 for the same month in 1966.

On April 1, 1967, unemployment insurance was extended to farm employees receiving cash wages of $9.00 or more per week. On August 24, the rules for payment of unemployment insurance contributions on behalf of casual or temporary employees were changed to bring them in line with the provisions of the Canada Pension Plan. The present rules state that a temporary or casual employee in agriculture or horticulture who earns less than $250 in cash wages and works for less than 25 days in a calendar year is not insurable. Such an employee becomes insurable the week following the day in which his total cash earnings reach $250 or on his twenty-fifth working day whichever day is later. As of October 1, 1967, approximately 48,000 agricultural employers were registered with the Unemployment Insurance Commission.

On January 1, 1966, the Canada Pension Plan became universally applicable and the first retirement pension cheques were payable in January 1967. Agricultural employees between the ages of 18 and 70 years, and receiving annual wages of $600 or more are covered. The pension plan also covers self-employed farm operators who have net incomes or earnings of $800 per year or more.

The Department of Manpower and Immigration's Canada Manpower Centres throughout Canada have expanded their placement service for workers in agriculture this year, and are assisting the movement of Canadian farm workers both within provinces and between provinces under the Federal-Provincial Agricultural Manpower Agreement. During 1966, the number of placements in agricultural employment was approximately 100,000. Of this, about 10,000 were moved to meet seasonal harvest demands within Canada and between Canada and the United States.

Machinery and Electricity on Farms

The use of machinery and equipment has been increasing rapidly on Canadian farms (Table 7). The declining number of farms has kept the numerical growth of total machinery units relatively small, but the movement towards larger types of machinery has contributed to an accelerated increase in total value of machinery and equipment on farms.

A strong movement towards larger machinery has developed in recent years. The shift in composition of tractor sales is indicative of this trend. In 1961 only 22.6 per cent of all new tractors sold by dealers were of more than 60 horsepower. By 1965, the figure had increased to 47.4 per cent. During this period, the number of tractors sold increased by only 14 per cent, while value of sales increased by 66 per cent, partly because of rising prices, but mostly because of the shift to larger tractors.

Census estimates of the value of farm machinery and equipment were $1,933.3 million in 1951, $2,568.6 million in 1961 and $3,552.4 million in 1966. These changes reflect the effects of all relevant factors, such as machinery prices, the number of farms, and shifts to larger machinery units. A continuation of the trend in growth rates would result in a machinery and equipment inventory of close to $5 billion by 1971.

Data on annual gross and net capital outlay for machinery and equipment are presented in Table 8 for the years 1961 to 1967. Since capital expenditures are affected by many factors, including current income, credit conditions and backlog of demand for machinery, projections of the level of capital expenditures are difficult to make. However, capital expenditures for machinery have been in-

creasing at a diminishing rate, and there is no indication that this trend will change.

Unlike new investment in machinery, operating expenses for farm machinery in Canada have been accelerating. The average annual rate of change in operating expenses was 5.7 per cent from 1962 to 1966.

Considerable progress has been made in the electrification of farms. While in 1956 only 73.5 per cent of all farms had electricity, that proportion has increased to 85.2 per cent in 1961 and to 88.7 per cent in 1966. The average annual electricity bill per farm amounted to $95.80 in 1966, compared with $76.30 in 1961.

Feed

Farm expenditures for purchased feed amounted to $525.5 million in 1966, representing an increase of 44.1 per cent over those of 1962 and 14.4 per cent more than in 1965. In 1966, outlays for feed as a proportion of all inputs were only slightly higher than in 1962.

The trend towards greater specialization in feed needs, formulation, and distribution that has characterized recent years is expected to continue. Overall supplies of feed are adequate. Higher costs of transportation are being partially offset by the increasing use of bulk handling and automatic feeding systems which also facilitate the mass management of livestock with low labor inputs per unit of output. The feed formulating industry is rapidly replacing many small mixing plants with modern high capacity mills capable of precision formulation of a wide range of feeds, and this is being coupled with service to farmers.

It appears that feed costs in 1968 will remain close to present levels but slightly below those of the past year. There is a growing evidence of an interest in balancing feed and livestock production within regions in Canada.

TABLE 7—SELECTED MACHINERY UNITS PER FARM, CENSUS DATA 1951-1966, AND ESTIMATES, 1967, 1968, 1971

	Automobiles	Trucks	Tractors	Grain Combines
			units per farm	
1951	0.53	0.32	0.64	0.14
1956	0.61	0.48	0.87	0.24
1961	0.74	0.63	1.14	0.32
1966	0.83	0.80	1.39	0.40
1967[a]	0.8	0.8	1.4	0.4
1968[a]	0.9	0.9	1.5	0.4
1971[a]	0.9	1.0	1.7	0.5

[a]Forecast.

Growth rates are based on census data. Annually compounded growth rates used were: automobiles 2.0 per cent; trucks 4.7 per cent; tractors 3.5 per cent; combines 3.0 per cent. Each of these rates is lower than the historic rates of change because the annual rates of change have been declining over the historic period studied.

TABLE 8—GROSS AND NET CAPITAL INVESTMENT IN FARM MACHINERY, CANADA, 1961-1967

	1961	1962	1963	1964	1965	1966	1967
				million dollars			
Capital expenditures for farm machinery and equipment[a]	381.7	442.3	526.2	595.4	675.7	731.6	749.8[b]
Depreciation on machinery	266.8	287.6	299.0	317.5	338.6	367.4	
Net capital investment in farm machinery and equipment	114.9	154.7	227.2	277.9	337.1	364.2	

[a]Does not include machinery operating expenses.

[b]Forecast.

Sources: *Private and Public Investment in Canada, Outlook 1967*, Catalogue 61-206, Dominion Bureau of Statistics and Department of Trade and Commerce, Ottawa, August 1967.
Handbook of Agricultural Statistics, Part II —Farm Income, Catalogue 21-511, Dominion Bureau of Statistics, Ottawa.

Fertilizers

Fertilizer production has been increasing rapidly in recent years. While the production of potash is expected to far exceed Canadian needs, it is not anticipated that the production of phosphorus and nitrogen will greatly exceed domestic requirements.

The amount of fertilizers sold in Canada for domestic agricultural use increased from 1,144,000 tons in 1962 to 1,919,000 tons in 1966, a 13.9 per cent average annual increase and a 20.4 per cent increase between 1965 and 1966. However, the average yearly increase in tonnage based on nutrient content for the 1962-66 period was even greater, amounting to 28.9 per cent for nitrogen, 17.0 per cent for phosphorus, and 10.2 per cent for potash (Table 9).

While expenditures for fertilizers have increased, amounting to $87 million in 1962, $139 million in 1965 and $164 million in 1966, expenditures for these years in relation to total inputs have increased only moderately from 2.4 per cent in 1962 to 3.2 per cent in 1965 and 3.5 per cent in 1966 (Table 10).

In Canada the production of nitrogen and phosphorus is not yet at a level that would tend to depress prices. While the production of potash is large in relation to domestic use, exports have tended to keep pace with production. To date the prices of basic materials in Canada have remained firm and it is expected that prices of fertilizer used for the 1968 crop will remain fairly close to 1967 prices. An increased demand is expected for bulk delivery and field spreader service. The value of the increased yield from fertilizer in relation to costs is such that there is likely to be an increasing use of fertilizer for some time to come.

TABLE 9—TOTAL FERTILIZER SOLD FOR USE IN CANADA, AND AMOUNT OF NITROGEN, PHOSPHORIC ACID AND POTASH CONTAINED IN FERTILIZERS, SOLD SELECTED PERIODS, 1957-1966

Period Ending June 30	Fertilizer Sold			Nutrients Contained in Fertilizer		
	Total	Materials	Mixtures	N	P_2O_5	K_2O
	thousand tons	per cent	per cent	thousand tons of nutrient		
1957-61[a]	920.0	23.6	76.4	63.1	144.7	88.5
1962	1,144.0	30.1	69.9	98.3	196.8	106.5
1963	1,256.8	35.7	64.3	122.3	223.3	116.0
1964	1,454.3	41.9	58.1	106.6	264.2	120.7
1965	1,593.6	43.0	57.0	188.2	293.8	135.4
1966	1,917.9	47.5	52.5	240.5	367.6	156.3
1962-66[a]	1,473.3	39.6	60.4	151.2	269.1	126.2

[a] Annual average.

Sources: *Fertilizer Trade*, Annual—Catalogue 46-207, Dominion Bureau of Statistics, Ottawa.
Farm Net Income, Catalogue 21-202, Dominion Bureau of Statistics, Ottawa.

TABLE 10—FARM EXPENSES FOR FERTILIZER AND LIME, CANADA, BY PROVINCES, SELECTED PERIODS, 1957-1966

Province	1957–61	1962	1963	1964	1965	1966	1962–66
	million dollars						
Prince Edward Island	2.9	3.0	3.2	3.2	3.7	3.9	3.4
Nova Scotia	1.7	2.0	2.1	2.1	2.5	3.4	2.4
New Brunswick	3.7	4.2	4.1	4.2	5.2	5.2	4.6
Quebec	11.7	16.0	15.3	16.3	18.6	23.2	17.9
Ontario	32.1	39.6	47.1	54.7	60.2	61.0	52.5
Manitoba	2.2	3.0	4.3	5.5	7.1	14.5	6.9
Saskatchewan	3.0	4.6	7.0	12.2	14.1	20.9	11.8
Alberta	5.9	10.6	14.3	20.2	22.7	26.6	18.9
British Columbia	3.1	4.1	4.2	4.4	4.7	5.4	4.6
CANADA	66.3	87.1	101.7	122.8	138.8	164.1	122.9

Source: *Handbook of Agricultural Statistics*, Part II—Farm Income, Catalogue 21-551, Dominion Bureau of Statistics, Ottawa.

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TABLE 11—SALES OF PEST CONTROL PRODUCTS FOR AGRICULTURE USE, CANADA, SELECTED PERIODS, 1957-1966[a]

Period Ending September 30	Total[b]	Herbicides	Crop and Seed Treatments[c]	Livestock Treatments[d]
		million dollars		
1957-1961[e]	18.9	7.7	9.4	1.8
1962	27.8	11.3	13.1	3.4
1963	28.7	12.7	13.5	2.5
1964	27.2	14.6	10.3	2.4
1965	29.9	17.2	10.1	2.6
1966	40.2	23.1	11.7	5.5
1962-1966[e]	30.8	15.8	11.7	3.3

[a] Data presented in this table refer only to the sale of products registered with the Department of Agriculture as required under the terms of the Pest Control Products Act.

[b] Excludes household and industrial insecticides and rodenticides.

[c] Crop treatment includes agricultural dusts and sprays for use on field, vegetable and orchard crops, and in greenhouses. It does not include preparations for use on or around livestock, for weed control (herbicides) or home, garden, or industrial uses.

[d] Excludes medicated feeds.

[e] Annual Average.

Source: *Sales of Pest Control Products by Canadian Registrants*, Annual, Catalogue 46-212, Dominion Bureau of Statistics, Ottawa.

Agricultural Pesticides

In 1966, the amount spent on herbicides and pesticides for agricultural use was $40.2 million, compared with $29.9 million for the previous year. Herbicide expenditures in 1966 were $23.1 million, compared with $11.7 million for crop and seed treatments and $5.5 million for livestock treatments (Table 11).

Expenditures for agricultural pesticides increased, on the average, by 10.6 per cent annually between 1962 and 1966, and by about 35 per cent between 1965 and 1966. The value of herbicides used on farms increased at an average yearly rate of 19.9 per cent between 1962 and 1966, but less was spent on crop and seed treatments in 1966 than in 1962.

Assuming that the 1964 to 1966 trend continued in 1967, total expenditures on agricultural pesticides will be about $45 million in 1967, and if this rate of increase continues through 1968, the total expenditures on these products will likely be about $49 million in that year. Expenditures on herbicides are expected to show the greatest increase in 1968 while crop and seed treatment expenditures will likely change the least.

A considerable volume of animal health products, other than those registered under the Pest Control Products Act, is used on farms. No published statistics are available for these, but it is estimated that their value is about five times that of livestock treatments.

While the production of domestic foodstuffs must ensure that residues of pesticides do not occur in excess of acceptable levels, international requirements are also coming into the picture. The impact of newly established international residue tolerances may necessitate some changes in pesticide use-patterns if Canadian exports are to meet these tolerance specifications.

Farm Capital

Between 1962 and 1966, the value of farm real estate, machinery and equipment, and livestock in Canada increased from $13,684 million to $19,166 million. This was an average annual increase of 8.8 per cent; the 1966 value exceeded that of 1965 by 10.9 per cent (Table 12).

The largest share of total capital was accounted for by real estate. Farm real estate values grew at an annual rate of 10.7 per cent during the 1962-66 period. The 1966 figure was 11.9 per cent over that of 1965. In 1962 real estate represented 65.6 per cent of total capital and in 1966 it accounted for 70.3 per cent.

Machinery and equipment on farms was valued at $3,552 million in 1966. The 1962-66 average annual rate of increase was 6.3 per cent while the

1965-66 rate was 7.9 per cent. This category made up 19.4 per cent of all capital in 1962 and 17.7 per cent in 1966.

Assets in the form of livestock, amounting to $2,054 million in 1962, increased to $2,312 million in 1966. This represented an average annual rate of increase of 3.1 per cent between 1962 and 1966; the 1965-66 rise was 9.7 per cent. Livestock represented 15 per cent of total capital in 1962 and 12 per cent in 1966.

TABLE 12—VALUE OF FARM CAPITAL, CANADA, BY PROVINCES, 1962-1966[a]

Province	Year	Real Estate	Machinery and Equipment	Livestock	Total
		million dollars			
Prince Edward Island	1962	54.9	28.1	17.0	99.9
	1963	55.6	29.1	17.3	102.1
	1964	57.2	30.1	17.7	105.1
	1965	58.8	31.5	18.5	108.8
	1966	65.0	34.0	19.3	118.3
Nova Scotia	1962	86.8	31.8	27.0	145.6
	1963	86.8	32.8	26.8	146.4
	1964	90.5	33.9	26.4	150.8
	1965	94.2	35.5	26.3	156.0
	1966	102.7	37.4	27.3	167.5
New Brunswick	1962	86.0	32.9	22.6	141.4
	1963	84.6	34.0	22.3	141.0
	1964	88.8	35.2	22.3	146.3
	1965	92.8	36.9	21.8	151.5
	1966	102.4	39.2	21.7	163.4
Quebec	1962	1,004.3	322.2	327.7	1,654.2
	1963	1,035.4	345.7	335.2	1,716.4
	1964	1,076.8	366.1	322.5	1,765.4
	1965	1,149.3	382.6	326.9	1,858.7
	1966	1,232.1	402.3	353.6	1,988.0
Ontario	1962	2,681.8	598.2	630.9	3,910.9
	1963	2,736.5	623.1	622.6	3,982.2
	1964	2,973.7	654.5	629.5	4,257.6
	1965	3,192.6	692.5	630.7	4,515.8
	1966	3,577.4	739.2	693.8	4,990.5
Manitoba	1962	732.9	280.2	166.9	1,180.1
	1963	786.2	295.7	178.6	1,260.5
	1964	879.5	320.3	188.6	1,388.4
	1965	999.5	348.6	176.3	1,524.4
	1966	1,092.7	381.9	192.3	1,667.0
Saskatchewan	1962	2,007.1	700.0	321.5	3,028.6
	1963	2,358.3	729.8	341.2	3,429.3
	1964	2,759.7	781.2	358.5	3,899.4
	1965	3,311.6	843.1	335.4	4,490.1
	1966	3,813.4	924.9	367.7	5,106.1
Alberta	1962	1,861.3	573.0	454.4	2,843.7
	1963	1,984.4	599.2	484.8	3,068.4
	1964	2,219.9	631.0	507.9	3,358.7
	1965	2,556.2	669.5	478.6	3,704.4
	1966	2,825.3	721.5	532.8	4,079.6
British Columbia	1962	504.0	89.8	85.9	679.7
	1963	511.3	92.4	91.0	694.7
	1964	529.6	95.9	93.0	718.5
	1965	584.3	99.9	93.1	777.0
	1966	675.6	106.0	103.5	885.2
CANADA	1962	8,974.0	2,656.2	2,053.8	13,684.0
	1963	9,639.2	2,781.8	2,119.9	14,541.0
	1964	10,675.6	2,948.2	2,166.4	15,790.1
	1965	12,039.3	3,140.2	2,107.5	17,286.9
	1966	13,466.8	3,386.5	2,312.2	19,165.5

[a] Subject to revision based on the 1966 census of agriculture.

Source: Farm Finance Section, Agriculture Division, Dominion Bureau of Statistics, Ottawa.

Land Prices

The very large increase in the value of farm real estate since 1962 has been largely due to increases in land prices. Dominion Bureau of Statistics data indicate that over the period 1962 to 1966 the annual average rate of change varied from 4.5 per cent in the Maritime Provinces to over 14 per cent in the Prairie Provinces. For Canada, the average annual increase for the period was 10.7 per cent. While land prices have increased most in the Prairie Provinces, the 1966 increases were at least 4 per cent less than during the previous year.

Land price changes for 1967 are still not known. Lower crop yields in a large part of the Prairies this year are expected to have some effect on land prices next year. The availability of capital for farm expansion purposes, especially where large loans are involved, together with higher interest rates are also expected to have a tempering effect on land price increases in 1968.

Increases in real estate prices presumably reflect anticipated farm net incomes (apart from the effects of urbanization). The increases in prices together with the larger units mean, however, that substantially larger amounts of capital are required to own and operate a farm. In addition, the higher real estate prices have a considerable impact on costs. The $4.9 billion increase in real estate values between 1961 and 1966 represents an annual interest charge of $250 million. By comparison, farm expenditures in 1966 for a number of items were as follows: taxes, $148 million; wages, $258 million; interest on indebtedness, $200 million; gasoline, oil and grease, $251 million; and fertilizer and lime, $164 million. There appears to be an increasing need for consideration to be given to the question of whether or not productivity of the land warrants further price increases.

Farm Credit

The total farm debt in 1961 was estimated to represent about 13.7 per cent of total farm investment in real estate, machinery and livestock. By 1965, farm debt had increased to 17 per cent of this investment. For 1966, the effect of steadily increasing land prices coupled with a slower growth in farm debt resulted in the ratio of debt to total investment remaining unchanged as indicated in Table 13.

During the first half of 1967, the amount of credit extended to farmers was estimated to have been about 10 per cent higher than for the same period a year earlier. About mid-year, the rate of increase started to decline more than usual. The major influences may have been higher interest rates, higher land prices, drought conditions in a large part of the Prairie Provinces and the limited money supply that some non-government sources had available due to a strong demand from other sectors of the economy.

The greatest expansion in farm credit took place in 1964. Since that time, while the amount of farm credit extended has been continually increasing, the rate of increase has been declining. The estimated increase in 1964 was 17.8 per cent over 1963. In 1965 and 1966, the increase was estimated at 10.3 per cent and 8 per cent respectively. It is expected that the increase for 1967 will be about 7.4 per cent.

Crop Insurance

Two provinces, Ontario and British Columbia, introduced crop insurance programs in 1967. Programs in the Prairie Provinces continued to expand. About 33,000 farmers in six provinces paid nearly $5 million for coverage of over $85 million. It is likely that coverage will continue to grow substan-

TABLE 13—FARM CREDIT AND INVESTMENT, CANADA, 1961-1967

Year	Amount Extended	Per cent increase	Amount outstanding	Per cent increase	Total farm investment	Debt as a per cent of investment
	million dollars	per cent	million dollars	per cent	million dollars	per cent
1961	1,250.3		1,802.5		13,159	13.7
1963	1,443.0		2,304.5		14,541	15.8
1964	1,700.2	17.8	2,640.3	14.6	15,790	16.7
1965	1,874.8	10.3	2,946.3	11.6	17,287	17.0
1966	2,025.0[a]	8.0	3,250.0[a]	10.3	19,166	17.0
1967	2,175.0[a]	7.4	3,575.0[a]	10.0	—	—

[a] Preliminary estimate.

Source: Farm Finance Section, Canada Department of Agriculture, Ottawa.

tially. Such growth will have a significant impact in providing stability to farm income and even upon the level of farm income itself.

Purchased Services

Increased specialization and commercialization has resulted in farmers obtaining more special services. Such items include soil testing, artificial insemination, record keeping and management analysis, custom work including pesticide and bulk fertilizer application, and certain aspects of integrated operations. These specialized services are likely to grow as farming becomes increasingly complex. Purchase of such services from specialists can often be made more economically, than if the farmer were to purchase the equipment or acquire the specialized knowledge himself.

Extension of general programs such as pensions, unemployment insurance and workmen's compensation to include farmers and the requirements of income tax call for increased efforts in maintaining accurate records. In turn, the size and complexity of the farm business means that record keeping and analysis will play a more important role in business management. These developments mean that farmers will be devoting more of their time to this activity. The use of the computer as a tool for farm management is still in the development stages, but computers are being used more and more for farm record keeping and farm planning, for R.O.P.-D.H.I.A. programs, analysis of soil test data, analysis of the effects of weather on crop planning, and other purposes. Several provinces and universities have computerized the year-end analysis of account books kept by farmers, and work is going forward on the development of a Canadian farm record keeping system for monthly computer processing of financial and physical records on the farm business.

GRAINS, FEEDS AND OILSEEDS

WHEAT

Situation

World Situation 1966-67—World production of wheat (excluding Mainland China) reached a record level in 1966-67 of 10.3 billion bushels (281 million metric tons), 17 per cent above the previous year's crop and 12 per cent above the previous record set in 1964-65. Beginning stocks in the four major exporting countries (U.S.A., Canada, Argentina, Australia), at 981 million bushels (26.7 million metric tons), were at the lowest level for 13 years. With large world supplies of wheat in many regions of the world, international trade amounted to 2.1 billion bushels (56 million metric tons), a 10 per cent decrease from the record of 1965-66. Less wheat was shipped by Canada, the United States, Argentina and France, but the U.S.S.R. and Australia increased exports. In spite of the decline in import demand, export prices averaged higher than a year earlier due to the tighter supply situation in certain exporting countries.

Canadian Situation 1966-67 — Stocks of Canadian wheat carried into the 1966-67 crop year were 420 million bushels (11.5 million metric tons), the smallest since 1962, and down by some 93 million bushels from August 1, 1965. The wheat crop was at an all-time high of 827 million bushels (22.5 million metric tons), surpassing by 104 million bushels the previous record set in 1963. Thus, in 1966-67 supplies available amounted to 1,247 million bushels (34 million metric tons) or 7 per cent more than in 1965-66.

Farmers marketings during 1966-67 increased to a record 637 million bushels (17.3 million metric tons), up 10 per cent from the 1965-66 marketings of 574 million bushels (15.5 million metric tons). Wheat going into domestic use totaled 154 million bushels of which 16 million bushels were moved for feed under Feed Freight Assistance and some 42 million bushels were used for seed.

Wheat and wheat flour exports totaled 516 million bushels (14.1 million metric tons), 13 per cent below the record of 591 million bushels (16.1 million metric tons) of 1963-64, but nevertheless the third highest on record. Exports to the developed countries rose slightly to 202 million bushels (5.5 million tons), with a decline in trade to Western Europe more than offset by an increase to Japan. Exports to developing countries rose substantially from 55 million bushels (1.5 million tons) in 1965-66 to 75 million bushels (2 million tons) in 1966-67, due primarily to increased aid shipments, especially to India. Exports to Communist countries declined from 334 million bushels (9.1 million tons) to 239 million bushels (6.5 million tons). An increase in shipments to Mainland China did not offset the substantial decrease to the U.S.S.R. and the smaller decline to Eastern Europe.

Exports began to level off in the latter months of the crop year due to a softening of import demand, with the possibility of good harvests in most areas of the world. The carryover of wheat into the 1967-68 crop year increased 157 million bushels, to a total of 577 million (15.7 million metric tons).

Canadian wheat prices, basis the Lakehead, were at record levels during the crop year. No. 1 Northern averaged $2.12 per bushel compared with $2.00 the previous year. By July, 1967, prices had begun to reflect the fall in export sales and had dropped to $2.07.

World Production 1967-68—For the 1967-68 season, opening stocks in the four exporting countries are slightly larger than in 1966-67 at 1.1 billion bushels (29.3 million metric tons). Stocks fell in in the United States to 412 million bushels (11.2 million tons), the lowest since 1953-54. They also fell in Argentina and France, but rose in Canada and Australia.

Present indications are for a decline in the world harvest from the record set in 1966-67. Among other factors, wet conditions over much of Western Europe kept the area sown to wheat below average levels, but favorable growing conditions have resulted in larger yields of higher quality soft wheats pushing total production up slightly above last year's.

In the developing countries, production seems to be improved over last year. Expectations in India are for higher production than last year and equal to the 1965-66 crop, and the Pakistan crop too, should be larger than in 1966-67. In the Near East, production is up generally, with bumper crops in Iran and Turkey. In North Africa, continued drought has adversely affected the Tunisian crop and there has been only a limited recovery in Morocco.

In the U.S.S.R., the area sown to wheat was smaller than last year. However, a good crop of about 3,000 million bushels (80 million tons) can be expected. Although this is 20 per cent less than the record 3,700 million bushels (100 million tons) of last year, it is not expected that the U.S.S.R. import requirements will be great. Some impression of the size of the U.S.S.R. wheat crop can be gained if

one compares the 700 million bushel decrease from last year with the total Canadian wheat production of 600 million bushels. In the rest of Eastern Europe, production is higher than it was last year and above the recent average. Unconfirmed reports indicate a 10 per cent increase in production in Mainland China.

In the exporting countries, the North American situation this year is in marked contrast with last year. While total production will exceed last year's level by only a small amount, the distribution of production is quite different. Whereas Mexico experienced a poor crop in 1966-67, and the United States turned out a crop slightly less than the year before, Canada harvested a record volume. This year, both Mexico and the United States have had record crops, while Canada has experienced a drop in production of 28 per cent. United States production at 1,540 million bushels (41.9 million metric tons), is up 17 per cent from 1,310 million bushels (35.7 million metric tons). The large increase in U.S. production is due to an expansion in acreage with a slight increase in average yield. Although the total wheat allotment acreage in the United States was increased 32 per cent to 68.2 million acres, acreage signed up under the allotment program increased by only 15 per cent to 57.3 million acres. Total seeded acreage approached 68 million acres, as some farmers exceeded their allotment, while harvested acreage will be about 58 million acres. Canada has a crop of 593 million bushels (16.1 million metric tons), resulting from a 1.4 per cent increase in area and a yield 4 bushels per acre less than the five-year average.

In the southern hemisphere, crops are not yet harvested. Although seeded acreage has expanded about 6 per cent in Argentina, early indications point to a third successive year of drought and production may only be 10 per cent above last year's below average crop. In Australia, where wheat acreage has expanded considerably from 10 million acres in the late 1950's to 20 million in 1966-67, further increases are reported for the current year (up 1.7 million acres), but latest reports indicate that lack of rain may produce a crop of less than 300 million bushels (8.2 million metric tons) compared with 448 million bushels (12.2 million metric tons) last year.

Canadian Situation 1967-68—Seeded acreage totalled 30,121,000 acres, an increase over last year of 1.4 per cent. Winter wheat in Ontario accounted for 400,000 acres, up by 17 per cent over last year. Based on precipitation figures, a very light crop was expected, but yields turned out greater than anticipated due to a combination of circumstances which included the high moisture reserves in the soil, the relatively cool summer with no excesses of heat or wind, the adaptability of new varieties, the ideal harvesting weather which kept losses to a minimum, and the application of a greatly improved farm technology.

The September estimate of production places wheat at 593 million bushels (16.1 million metric tons), with a yield of 19.7 bushels per acre, compared with 827 million bushels (22.5 million metric tons) and a yield of 27.9 bushels per acre in 1966. The greatest decline in yield was in Saskatchewan followed by Alberta, while most areas of Manitoba largely escaped the drought and the average yield was above last year. Included in the total is the Ontario winter wheat crop of 15 million bushels. The total crop is 234 million bushels below last year's record but only 80 million below the 1962-63 to 1966-67 average. The grain is of very high quality, with over 95 per cent in the top three grades and an average protein content of 13.8 per cent, an increase from last year's 13.5 per cent.

Canadian wheat prices continued to move downward in August of this year and in September dipped briefly to a low of $1.91 for No. 1 Northern, basis in store Fort William-Port Arthur, in line with pressures being exerted on world wheat prices. By mid-October, the price had increased to $1.95 per bushel. For the 1967-68 crop year, the Canadian Government raised the minimum support level for No. 1 Northern to $1.70 per bushel from $1.50, in the form of an increased initial payment. A further guarantee of price was implemented when the Government agreed to pay the difference between the new International Grains Arrangement minimum price of approximately $1.95½ and the selling price on all sales made below the new IGA minimum price. In effect, for all such sales, farmers will be guaranteed a price based on the IGA minimum price for No. 1 Manitoba Northern basis in store at the Lakehead, and its equivalent for other grades, until the new International Grains Arrangement comes into effect on July 1, 1968.

Outlook

World Trade Outlook 1967-68—World trade in wheat has slowed down in the early months of the 1967-68 season. A combination of many factors seems responsible for this situation. Carryover stocks are slightly higher and production in several exporting countries is at high levels. In those countries where harvests have not yet started, acreages

have increased. Production in importing countries in general is likely to be higher than last year's and import requirements may be lower.

World trade in 1967-68 is expected to vary from that of the previous year. Exports to the developed countries which in total have not expanded in recent years may show a decline. Total imports of wheat into Western Europe will probably be slightly smaller than last year. Increases to Japan, where competition for the expanding market continues very strong, may not offset this decline. The developing countries will require large quantities of wheat to meet their food grain needs and for stock replenishment, but actual exports depend largely on aid commitments. With better harvest prospects in India and Pakistan, emergency shipments to these countries will decline but total aid shipments are likely to remain large. Exports to the Middle East and North Africa may increase. In the U.S.S.R., however, wheat imports may be no higher than the 75 million bushel contract with Canada. In Eastern Europe where production is up, imports may not increase. It is reasonable to assume that Mainland China will continue to require wheat imports but internal difficulties there may interfere with purchases.

World trade will probably reach only 1.8 billion bushels (50 million tons) in 1967-68 and supplies available for export will be more than adequate to meet this demand, accordingly, closing stocks in exporting countries may rise slightly at the end of the season. Wheat prices, which are lower than last season are expected to be maintained in the lower part of the new International Grains Arrangement range, but the level will be largely determined by the results of the harvest in the southern hemisphere.

Canadian Wheat Export Outlook 1967-68—Trade with the developed countries has been slow, but the trends of the last few years are not likely to change radically. Exports to Western Europe may decline slightly and the Japanese market may not increase to the same extent as last year. Thus, total sales to developed countries may be under 200 million bushels (5.4 million metric tons).

Commercial trade with developing countries is expected to remain at about the same level as last year, while aid shipments may decline. At 50 million bushels, aid shipments in the 1966-67 crop year were particularly high. This was due to a supplementary food aid allocation and heavy shipments in the April-July period against the 1967 allocation of $75 million which was made available April 1, the beginning of the fiscal year. The Government has announced a food aid allocation for the 1968 fiscal year of $75 million. It is probable that a large portion of this sum will be utilized for aid shipments of wheat and flour in the period April to July, 1968, and that aid shipments to developing countries during the crop year will total 30 to 35 million bushels. Total exports to developing countries are expected to be approximately 50 million bushels (1.4 million metric tons).

Communist countries have not increased purchases beyond their contract levels this year. In particular, the U.S.S.R., which in the past has often taken the maximum contract quantity, has only agreed to take the minimum commitment of 75 million bushels (2 million metric tons) under the three-year agreement signed last year. The record Russian wheat crop of 1966 and the reported average crop this year may have reduced the need for large imports from Canada for this year as domestic stocks have probably accumulated. Similarly, with a good level of production in Eastern Europe, exports to that area may not increase over last year's 30 million bushels (0.8 million metric tons). There have been no significant shipments to Mainland China so far this year and it is impossible to predict the level of Canadian exports to that country at this time.

Depending on the level of exports to China, total exports during 1967-68 should be in the range of 350 to 400 million bushels (9.5 to 10.9 million metric tons) and domestic disappearance should approach 155 million bushels (4.6 million metric tons). With the total wheat supply for the crop year at 1,170 million bushels (31.8 million metric tons), exports in the range predicted will result in a carryover next July 31 of between 615 and 665 million bushels (16.7 to 18.1 million tons).

The outlook for this year is one of increasing stocks, because of a decline in exports greater than the decline in supplies available. With the recent experience of producing a good crop with low precipitation during the growing season, it is clear that with normal conditions, a smaller area could produce all the supplies needed to meet anticipated demand requirements in 1968-69.

Flour

Flour prices showed more stability during 1966-67 than in the previous crop year, reflecting steadier wheat prices. Flour production was 40 million cwt. (92.6 million bushels), representing 78.8 per cent of Canadian milling capacity. This is a reduction from the previous year's figures of 43.5 million cwt. (100.9 million bushels) and 85.4 per cent utilization.

Domestic consumption of 25.0 million cwt. (57.9 million bushels) remained close to the 10-year average. Exports to Communist bloc countries were 5.3 million cwt. (12.3 million bushels), compared with 6.2 million cwt. last year. Exports to other countries showed a decline to 9.7 million cwt. from 10.4 million cwt. (24.1 million bushels). The long-term trend shows a continued decrease in our traditional markets, and this is particularly significant in the case of the United Kingdom where there has been a decline of over 1 million cwt. or 30 per cent from last year, although there was a slight increase in food aid shipments to developing countries.

Flour exports to Communist bloc countries are expected to continue at least to 1969 under the terms of the contract. Flour shipments for aid programs, however, are not expected to continue at the 1966-67 level, due mainly to the likelihood of India taking wheat instead of flour. Exports to the United Kingdom are expected to decline further owing to price preference for wheat, and a reduction is also predicted in other traditional markets as new flour mill construction in developing countries continues. A slight increase might be foreseen in domestic business if population increases offset the decline in per capita consumption. The long-term outlook, therefore, is for a continuation of the gradual decrease in Canadian flour production.

Durum Wheat

Canadian durum wheat production in 1966-67 was 28.4 million bushels from 1,064,000 acres, a record yield of 26.7 bushels per acre. Visible supplies of durum (excluding durum stocks on farms) on July 1, 1966, was 18.2 million bushels, and exports during the year reached only 27 million bushels compared with 34 million bushels in the previous year. With visible supplies on July 31, 1967 at 11.0 million bushels, and a production of 20.6 million bushels, supplies are down from last year. The 1967 acreage increase of 258,000 acres or 24 per cent was offset by the effect of the drought and yields reached only 15.6 bushels per acre.

Production of durum wheat in the United States is estimated to be 66 million bushels, up 5 per cent from the 1966 crop as a result of increased acreages with no change in the average yield. Durum production in Italy and France is estimated at 95 million bushels. In North Africa, drought has reduced the durum crop in Tunisia and Morocco.

While prospects for 1967-68 do not indicate any major increases in Canadian trade, exports should be maintained at a level slightly above last year. With normal supplies available, prices have remained at premium levels above spring wheat prices during 1966-67 and did not fall when other prices fell during the latter months of the crop year. Although supplies in Canada are reduced, these, together with the supplies in the United States, will be adequate to meet the expected import demand which in recent years averaged about 70 million bushels. At this level of trade, prices should remain at a premium above spring wheat prices.

The long-run outlook for trade in durum wheat is uncertain but some expansion of consumption can be expected in developed and developing countries. Total world import demand is expected to show a slow upward trend from the current 70 million bushels per year. Canada's share of these exports is unlikely to exceed half and thus average production from 1.25 million acres (or slightly less acreage than in 1967) would seem adequate for the coming year.

Longer-Run World Trade Outlook—There are varying assessments of the demand for wheat and level of world trade in wheat between now and 1980, but assuming the continuance of present consumption and production trends, the most likely development will be the maintenance of the recently established balance between world supply and demand. This does not mean that there may not be temporary surpluses or, on the other hand, that the depletion of stocks below normal levels, combined with unfavorable crop conditions in any one year, might not result in a temporary shortage. Markets for wheat in Western European countries may continue to shrink, although this trend could be reversed as a result of increased demand for feed grains and the transfer of available indigenous crop land from wheat to coarse grain production. A similar development may occur in the U.S.S.R. and the rest of Eastern Europe by 1980, but in the meantime these countries are unlikely to purchase the very large quantities of recent years. Mainland China is expected to continue to be a major importer. Likewise, Japanese demand should be a sustaining force particularly for hard and semi-hard bread wheat. It is likely that there will continue to be large food grain deficits in the developing countries, particularly in the Far East, despite the anticipated increase in domestic production in these countries. The overall prospects for wheat exports to developing countries will continue to be largely dependent on food aid financing, although some of the developing countries will increase the level of their commercial purchases.

Longer-Run Canadian Trade Outlook—Sales of Canadian wheat are likely to be affected by the decline in per capita consumption of wheat in the developed importing countries. There will be a continuing but not necessarily increasing market for high quality Canadian wheat in Western Europe for blending purposes. On the other hand, the Japanese market will have an increasing need for quality wheats as well as for lower quality types. There will be a limited commercial market for Canadian wheat in the developing countries, but a continuing need will exist for bilateral and multilateral food aid shipments. Canadian exports to the U.S.S.R. and Eastern Europe could become increasingly difficult as these countries approach a level of self-sufficiency. Mainland China is expected to require substantial wheat imports in the future. China prefers lower quality, lower priced wheat, but due to the close world balance of supply and demand, is likely to continue to depend on Canada as a reliable source of wheat. These new features are discernible at the present time, but other changes are taking place in importing countries that are going to affect the demand for Canadian wheat.

RYE

The supply of spring and fall rye available for consumption during the 1966-67 season totaled 27.7 million bushels, up 11 per cent from the previous year. Exports increased 24 per cent in 1966-67 to 10 million bushels, a figure double that of two years earlier. Domestic disappearance increased 49 per cent to 9.6 million bushels due primarily to increased quantities of rye being fed to livestock. As a consequence, stocks carried over into the 1967-68 crop year were 8.3 million bushels, down 22 per cent from the beginning stocks. Prices for rye averaged several cents higher than in the previous year.

Although the area seeded to rye for the 1967-68 season increased slightly over that of the 1966-67 season, lower yields caused production to fall 22 per cent to a level of 13.4 million bushels of which 1.2 million bushels was spring rye. If domestic consumption approaches 10 million bushels this year, as appears likely from the trend of recent years (although the increased use of rye as a feed grain may not continue), there will be 11.6 million bushels of rye available for export and year-end carryover, or 36 per cent less than last year. If exports exceed 8 million bushels, carryover stocks at the end of 1967-68 will approach the very low level of 3 million bushels.

The United States rye supply for 1967-68 is placed at about 44 million bushels. This is more than 4 million bushels below that of the two previous years but still above the 1960-64 average. United States domestic disappearance of rye continued near the 25 million bushel level of the past two years, although rye exports totaled 4.4 million bushels, slightly above 1965-66 and double that of 1964-65.

The export demand for rye depends heavily on production and supplies in Western and Eastern Europe. It seems likely that in 1967-68 there should be a demand exceeding 8 million bushels for Canadian rye. Supplies will be barely adequate to meet expected demand this year, and there seems to be some scope for a small increase in rye acreage next year. Given normal yields, a total rye acreage not exceeding 850,000 acres, compared with 758,000 this year, should provide sufficient supplies to cover domestic and export demand in 1968-69.

FEED GRAINS

Situation

World Trade in Feed Grains—World trade in coarse grains has increased rapidly in recent years and in 1966-67 reached a record 44 million metric tons, in sharp contrast with about 16 million tons in 1956-57. The bulk of this increase has been in corn and sorghum, reflecting the relative cost advantage of these grains in climatically suitable areas, based on the increasing use of high yielding varieties and related technical progress. By contrast, world trade in barley and oats has been constant and is accounting for a declining share of the rapidly rising total. Since barley and oats are Canada's major feed crops and there is a continuing rising demand for meat and livestock products in Canada, the use of feed grains has expanded at a rate that has absorbed the bulk of the production. Exports of Canadian oats and barley have declined from a total of 2.1 million tons in 1956-57 to 1.2 million in 1966-67.

Canadian Feed Grain Situation—Concentrates fed, including grains, during the 1966-67 season totaled an all-time high of 17.2 million short tons, some 7 per cent greater than the previous year's level of 16.1 million. With the continued favorable livestock-feed price ratios, associated with plentiful feed grain supplies, concentrates consumed per grain consuming animal unit totaled 1.04 tons compared with the previous season's figure of 0.99 tons and the five-year average of 0.91 tons. Of this large volume of concentrates fed, grains comprise about 90 per cent.

During the last decade, there has been a decline in the feed grain acreage from nearly 21 million

acres in the period 1955-59 to about 18 million acres in 1966 and 1967. The decline took place between 1955 and 1964 when acres in barley decreased by more than 30 per cent, but in the last three years the barley acreage has increased again. Since 1960, there has been a steady decline in the oats acreage, with a temporary reversal in trend in 1965. In the last few years there has been an increase in the area of both corn and mixed grains.

With this change in the acreage in different grains, even though less land is now devoted to feed grains, production has not decreased. This is due partly to the general increase in yields and partly to the greater proportion of higher yielding types of grains. Of the grains fed in Canada in 1966-67, compared with the five-year average 1961-62 to 1965-66, barley has increased by 50 per cent and corn by 35 per cent. However, oats, which has also increased slightly, form more than one-third of all concentrates fed.

Outlook

In response to the generally good returns from most animal products, rates of feeding are expected to be maintained at high levels. On this basis, it is anticipated that during the 1967-68 feeding season, concentrates fed will total about 17.7 million tons, a further increase over previous levels and up from the 1966-67 figure of 17.2 million tons. As the oats and barley crops are smaller, depletion of carryover stocks, especially barley, together with the large corn production and a small rise in imports, should provide the extra supplies.

Carryover stocks at July 31, 1968, are likely to total only 3.4 million tons, sharply below the 1967 figure of 5.2 million tons and are at the lowest level since 1962. Feed grain use in 1968-69 is expected to be maintained at least at the same level as in 1967-68 and there could well be a further increase in response to the rising consumer demand for meat. Thus, if the decline in stocks is to be halted and feed grain supplies maintained, a substantial increase in acreage seeded to feed grains is required in 1968. Assuming no change in import levels of feed grains and average yields, the increase would need to be about 10 per cent.

OATS

Situation

Total domestic supplies of oats in 1966-67, at 502 million bushels, were 8 per cent less than the 545 million of the previous season. Primary marketings of this grain from farms in the Prairie Provinces amounted to 38 million bushels in 1966-67 in contrast to the previous year's total of 52 million bushels and the ten-year average of 51 million bushels. Shipments of oats under the Feed Freight Assistance Program, according to preliminary data, amounted to 39 million bushels compared with the 1965-66 total of 34 million.

Total domestic disappearance of oats declined moderately to 387 million bushels in 1966-67 due primarily to reduced quantities of oats entering feed channels. Exports of Canadian oats and oat products during 1966-67 totaled 4.8 million bushels in contrast with both the previous year's shipments of 15.9 million and the ten-year average of 12.5 million bushels. Major markets for Canadian oats in 1966-67 were the Netherlands with 1.5 million bushels and the United States with 1.4 million bushels.

With total disappearance exceeding the 1966 harvest, carryover stocks at July 31, 1967, declined to 110 million bushels compared with the 1966 total of 127 million.

The Canadian Wheat Board asking price for oats, basis No. 1 Feed, in store at the Lakehead, opened at 91¢ per bushel, on August 1, and remained almost constant until the end of December when a decline of 3 to 4¢ occurred, then gradually recovered to close the year at the same level of 91¢.

The acreage seeded to oats for grain again recorded a moderate decline in 1967 and, with average yields falling considerably below the 1966 level, the current harvest is placed at some 301 million bushels, sharply below both the 1966 harvest of 375 million bushels and the recent five-year average of 397 million. Normally, just over two-thirds of the oats is produced in Western Canada. Almost all of the decrease that occurred in 1967 was in that area.

When the current production is added to the carryover of 110 million bushels, total supplies of oats for the 1967-68 crop year amount to 411 million bushels, in contrast with the 1966-67 figure of 502 million and the recent five-year average of 523 million.

Outlook

The tighter supply situation would indicate prices would be higher this crop year than last. However, it is unlikely that oats prices will increase due to the large United States corn crop which has had the effect of lowering feed grain prices generally and to the weaker competitive position of oats resulting from the trend towards greater use of higher energy

feeds. Primary marketings are likely to decline and the oats market could be largely confined to Western Canada with prices remaining at about present levels.

With the shorter supply of oats, domestic disappearance in 1967-68 will decline from the levels of recent years. With domestic disappearance around 350 million bushels (down from 387 million last year) and exports at about 3 million bushels, the total disappearance would still exceed the 1967 production by a wide margin and, as a result, carryover stocks at July 31, 1968, would be reduced to less than 60 million bushels, the lowest level of stocks since 1949-50. To maintain or build up carryover stocks at July 31, 1969, additional acreage seeded to oats will be required in 1968.

BARLEY

Situation

Supplies of barley in 1966-67 were at an all-time high of 399 million bushels due to a record crop harvested in 1966. With barley in plentiful supply, domestic disappearance reached a record level in 1966-67, primarily due to the increased use of barley for feeding purposes. Exports of barley, including malt, recorded a sharp increase from 38 million bushels in 1965-66 to 59 million bushels in 1966-67. However, shipments of barley under the Feed Freight Assistance Program, according to preliminary data, amounted to 35 million bushels compared with 27 million the previous year. Total disappearance was less than the 1966 production and year-end stocks increased from 98 million bushels at July 31, 1966, to 132 million bushels in 1967.

Barley exports at 53 million bushels represented a sharp increase over the 1965-66 level of 34 million. Major importers were Italy, 12 million bushels; Japan, 10 million; Britain, 9 million, and United States, 7 million. In addition, exports of Canadian malt in terms of barley amounted to the equivalent of 5 million bushels, with United States and Britain being the major customers. The Canadian Wheat Board asking quotation, basis No. 1 Feed, in store at the Lakehead, opened the 1966-67 crop year at $1.33¼ per bushel; this quotation declined to $1.22½ at the beginning of March, then gradually increased to end the year at $1.29 per bushel.

Reflecting a relatively sharp decline in the average yield per acre, which more than offset the increase in seeded acreage, production of barley in 1967 is estimated at 248 million bushels compared with the record level of 301 million bushels produced the year before. Production in the Prairie Provinces, where the bulk of this crop is produced, is estimated at 229 million bushels as against 283 million in 1966. When the current crop is added to the opening stocks of 132 million bushels, total supplies for the current crop year will be some 380 million, 5 per cent less than the 1966-67 total of 399 million but still well above average levels.

Outlook

Feed barley prices are presently about 7¢ per bushel lower than a year ago and it is anticipated that prices will continue at a level below last year due to the competition of alternative feed grains on both the world and domestic markets.

Due to the tighter supply situation for oats and in keeping with recent feeding trends, domestic disappearance of barley could rise to some 240 million bushels in 1967-68. With exports at about the recent average of 35 million bushels, the July 31, 1968 carryover would be about 105 million bushels. While this level of barley stocks would still be above the recent five-year average, this higher level would not offset the decline in stocks of oats. Present indications are that average barley yields per acre in the Prairies may be rising faster than those of oats. This probably reflects the responsiveness of this crop to better management practices including adequate soil fertility levels. If this is the case, and also taking into account the trends to higher energy rations in livestock feeding, a proportionately larger acreage increase in barley than in oats would seem warranted.

CORN FOR GRAIN

Situation

Production of grain corn in 1966 amounted to a record of 66 million bushels, an increase from the 60 million harvested the previous season. Added to the 1966 crop were some 6 million bushels carried over in commercial positions and imports amounting to 21 million. Domestic disappearance increased again to 87 million bushels in 1966-67 and represented a 4 per cent increase over the peak of 84 million a year ago.

Outlook

The expected harvest of the 72 million bushels of grain corn in 1967 represents a 9 per cent increase over the previous year's record of 66 million and marked the fifth consecutive year of record production. In addition to the current crop, imports could increase somewhat in 1967-68 due to the

abundant U.S. supplies at a lower price and the strong Eastern Canadian demand for livestock feeds.

The 4.7 billion bushel corn crop in the United States, which is 15 per cent greater than a year ago and the very large sorghum crop are influencing corn prices in Canada where 1967-68 prices are expected to be below those in 1966-67.

With the continuing trend to increasing meat consumption, the growth of feedlot operations, and the rapid adoption of improved technology in corn production, further steady increases in the acreage of this crop in Canada would seem justified.

FORAGE CROPS AND FEED SUPPLEMENTS

Situation and Outlook

Production of tame hay in Canada in 1967 is estimated at 24.9 million tons, some 4 per cent less than last year's record outturn of 26.0 million. Although hay production in 1967 was lower in all provinces except New Brunswick, Quebec and Ontario, supplies should be generally adequate except in some parts of Western Canada.

Production of fodder corn, which is mostly in Eastern Canada, is placed at a record 7.1 million tons in 1967, 7 per cent above last year's 6.6 million tons. Fall pastures have been generally satisfactory in most regions and, as a result, supplementary fall feeding has not been extensive this season.

Production of soybean meal, the major single component of all high protein supplements used by Canadian feeders, will continue at a high level in 1967-68. Packing house by-products are expected to show a slight increase, while flour mill by-products are expected to show a decline.

OILSEEDS

World Oilseed Situation and Outlook

World production of fats and oils may reach 38.7 million tons in 1967, compared with 37.7 million tons in 1966. Expansion of vegetable oil production will account for 90 per cent of the increase. The 1 billion bushel soybean crop in the United States and the large production of sunflower seed in the Soviet Union are the main factors contributing to the increase. There has been a shift in the last few years in the USSR and Eastern Europe from a net importer basis for oils and fats to a significant net exporter basis. Rapeseed production and oil output is expected to increase, especially in the EEC countries.

Edible oil prices have dropped considerably during the past year. The pressure of increased supply without an accompanying increase in demand is likely to result in a continuation of low oil prices for the coming year.

Demand for protein meals may increase somewhat. Prices for oilseed meals and fish meal are likely to remain fairly stable at their present level. Fish meal supply, particularly from Peru and Norway, has been very plentiful, and is competing with oilseed meals. Soybean meal supply will be very strong, while the supply of meals from tropical oilseeds is subject to uncertainty.

FLAXSEED

Situation

Exports of flaxseed for the crop year 1966-67 amounted to 16.4 million bushels, a decrease of 2.5 million bushels from 1965-66, but higher than the average for the last 10 years. Flaxseed exports continued to move to Canada's traditional customers, including the Netherlands, West Germany, Spain, Yugoslavia, the United Kingdom and Japan. Linseed oil and meal to the equivalent of about 1 million bushels were also exported, to the United Kingdom.

The average price in 1966-67 for No. 1 C.W. flaxseed basis Fort William was $3.00 per bushel, the same as in the previous year. Crushings of flaxseed for the crop year 1966-67 exceeded 2.5 million bushels, down slightly from the 1965-66 level of 2.6 million bushels and 2.9 million the year before. Flaxseed stocks at the end of the 1966-67 season were up slightly from 1965-66, approaching 12 million bushels.

Production of flaxseed in Canada was sharply down in 1967. September estimates indicated a crop of 10.2 million bushels which is only 46 per cent of the 22 million bushel crop of 1966 and 35 per cent of the 29 million bushel crop of 1965. The production decrease was due in part to yields which were down, by 2.3 bushels, to 9.2 bushels per acre, while acreage of 1.1 million in 1967 was only 58 per cent of the previous year's acreage of 1.9 million.

With both lower stocks and lower production, total supply for 1967-68 is forecast at 22 million bushels compared with 33 million bushels last year.

Outlook

The three major producers of flaxseed, the Argentine, the United States and Canada all report reduced production and sharply lower supplies of flaxseed available during the current crop year. Argentine acreage, to be harvested early in 1968, is down 17

per cent from last season. In the United States, where stocks are already down by 6 million bushels, the crop is estimated at 19.1 million bushels compared with 23.9 million last year. These reductions in the United States and Canada will reduce total supply in North America by over 20 million bushels. Last year total supply in North America was 72.3 million bushels and disappearance was 51.3 million bushels. Inventories are expected to be low at the end of the crop year.

Prices have risen considerably since the sharply decreased supply was forecast, with the average weekly price for the last week in September 1967 at $3.38, compared with a price for the corresponding week in September 1966 of $2.94 per bushel. It can be expected that this higher price level will remain firm until the 1968-69 situation becomes known. However, in view of the gradually shrinking world demand for linseed oil, only a moderate increase in acreage is justified.

RAPESEED

Situation

Exports of rapeseed in 1966-67 were little changed from 1965-66, amounting to 13.8 million bushels compared with 13.6 million bushels. Japan was again Canada's largest customer taking about 8.4 million bushels, with the E.E.C. countries, principally Italy, as Canada's second largest. Canada remains the world's largest exporter of rapeseed. Domestic crushings of rapeseed rose to close to 5 million bushels compared with 3.7 million in 1965-66. Average price for the year 1966-67 of No. 1 Canada rapeseed in store Vancouver was about $2.79 per bushel compared with $2.66 the year before.

Stocks in Canada including an estimate of stocks on farms amounted to 5,789,000 bushels at July 31, 1967. Stocks in commercial positions were just under 5 million bushels compared with about 3.4 million bushels the previous year.

The rapeseed crop was estimated in September 1967 at 26.5 million bushels compared with 25.8 millions in 1966. Total acreage was up by about 200,000, with a large increase in Alberta of 250,000 acres and a small 6,000 acre rise in Manitoba. This was partly offset by a decrease of 56,000 acres in Saskatchewan. For the last two years the annual acreage of over 1.5 million acres has represented almost five times the area in the period 1955-59. Yield per acre at 15 bushels is down about 3 bushels per acre from last year.

With the increase in stocks and production, supplies for 1967-68 are more than 3 million bushels higher than for 1966-67. For the first time, this supply includes significant on-farm stocks, estimated at 900,000 bushels. As a result of the increase in supply of rapeseed and other edible oilseeds, prices have showed a downward tendency, with quotations for the last week in September running at $2.37 per bushel compared with $2.70 per bushel for the same week in September 1966.

Outlook

The fats and oils policies of the European Economic Community and some other European countries are expected to result in a moderate increase in rapeseed production and exports. These policies will affect Canada's ability to compete in the European market, and Canadian exporters may have to become more competitive. Exports to Japan are expected to increase in spite of the fact that it is an important market for United States soybeans and Soviet Union sunflower seed.

While the export market will continue to absorb the bulk of Canada's rapeseed crop, rapeseed oil and meal are gaining in acceptability in Canada, partly as a result of research which has led to quality improvements. Domestic processing is therefore expected to increase further in 1968.

Due to the influence of competing United States soybean products, prices for rapeseed and rapeseed oil will probably remain at relatively low levels while those for the meal will be somewhat better. In addition, a record world production of 4.97 million tons of rapeseed is estimated for 1967-68. The plentiful supply of fats and oils on the world market will also tend to prevent significant rapeseed price increases during 1967-68. Heavier carry-over may deter acreage expansion next year, but expansion should then resume as the long-run picture is favorable.

SOYBEANS

Situation

Imports of soybeans for the crop year 1966-67 were estimated at 16.3 million bushels compared with 17 million bushels for 1965-66. Exports of beans increased by 1.4 million bushels in 1966-67 to approximately 3.6 million bushels. Exports of soybean meal were down from 242,000 tons in 1965-66 to 170,000 tons in 1966-67. Exports of oil were down slightly from 35.3 million pounds in 1965-66 to 34.6 million pounds in 1966-67. Soybean crushings in Canada dropped to 19.9

million pounds in 1966-67 from 20.6 million the previous year. Prices for soybeans, No. 2 or better, f.o.b. Chatham for the crop year 1966-67 averaged $3.06 per bushel compared with $3.01 for 1965-66.

The United States soybean situation has considerable bearing on the Canadian picture. The United States crop for 1967-68 is forecast at 993 million bushels, compared with the record crop of 931 million bushels for 1965-66. Carryover increased to nearly 91 million bushels from less than 36 million bushels in 1966. United States crushings were 552 million bushels compared with the previous year's crushings of 538 million. Exports at 262 million in 1966-67 were about 11 million bushels higher than in the previous year.

Canadian soybean production in 1967-68 is down slightly at about 8.3 million bushels compared with 9 million last year. Acreage was up from 279,000 to 290,000 but yield was down from 32.3 to 28.6 bushels per acre.

Outlook

In the United States the increased carryover of 91 million bushels combined with a record crop of 993 million bushels have resulted in total supply of 1,084 million bushels of soybeans at the beginning of the new crop year, 127 million bushels more than in 1966. Soybean prices have declined to near support level during the harvesting period. Consequently soybean prices are not expected to reach the high levels of the previous crop year. Demand for soybean meal will remain stronger than the demand for soybean oil and prices should reflect this situation.

In the longer-term the United Kingdom's decision arising out of the GATT Kennedy Round to reduce most-favored-nation tariffs in soybeans from 5 per cent to zero, and on soybean meal from 15 per cent to 10 per cent over a five-year period is likely to affect the export trade of Canadian soybean meal to the United Kingdom. Under current circumstances there seems little reason to expect expanded acreage next year.

SUNFLOWER

Situation

In 1967 the acreage of sunflowers increased to 44,000 acres, compared with 40,000 acres in 1966. Acreage in Saskatchewan and Alberta was negligible for the first time in several years and it is now almost all grown in Manitoba. Output was well above average, at 37.4 million pounds, although down slightly from last year. About two-thirds of the crop will go for crushing, while the balance will be used in bird seed and as a confection.

Sunflower production in the United States has increased due to new planting in the Dakotas and Wisconsin equal to those in Canada. USSR sunflower seed and oil entered the world market in large volume, the principal sales being made to Japan. Soviet sunflower crop prospects are reported to be considerably below last year's level so that export availabilities will probably be reduced. Canada imported about 20 million pounds of sunflower seed oil in 1966.

Outlook

Sunflowers are expected to continue as a relatively minor crop in Canada, although market prospects are good.

TABLE 1—WHEAT AND WHEAT FLOUR[a], WORLD PRODUCTION, TRADE AND CARRYOVER, SELECTED PERIODS, 1954-55 TO 1967-68

Item	Average 1954–55/ 1958–59	Average 1959—60/ 1963–64	1964–65	1965–66 (Revised)	1966–67 (Preliminary)	1967–68 (Forecast)
			million bushels			
Production	8,120	8,696	10,051	9,582	11,163	10,625
Trade	1,174	1,666	1,881	2,296	2,021	1,827
Year-end carryover[b] for 8 exporting countries.	1,927	1,958	1,624	1,205	n.a.	n.a.
			million metric tons			
Production	221.0	236.6	273.5	260.8	303.8	289.2
Trade	32.0	45.4	51.2	62.5	55.0	50.0
Year-end carryover[b] for 8 exporting countries.	52.5	53.3	44.2	32.8	n.a.	n.a.

n.a. Not available.

[a]Flour in terms of wheat equivalent.

[b]As at May 31—Spain; June 30—U.S.A. and Italy; Canada and France—July 31; Sweden—Aug. 30; Argentina and Australia—Nov. 30.

TABLE 2—CANADIAN EXPORTS OF WHEAT FLOUR[a], BY IMPORTING SECTOR

Importing Sector	1949–50/ 1958–59	1959–60/ 1963–64	1964–65	1965–66 (Revised)	1966–67 (Preliminary)	1967–68 (Forecast)
			million bushels			
Developed countries[b]	230.4	227.0	192.3	192.6	202.3	200
Developing countries[c]	48.4	39.0	48.0	55.1	75.2	50
Communist countries[d]	10.3	112.4	157.8	334.4	238.8	100–150
Total	289.1	378.4	398.1	582.0	516.3	350–400
			million metric tons			
Developed countries[b]	6.27	6.18	5.23	5.24	5.51	5.4
Developing countries[c]	1.32	1.06	1.31	1.50	2.04	1.4
Communist countries[d]	.28	3.06	4.29	9.10	6.50	2.7–4.1
Total	7.87	10.30	10.83	15.84	14.05	9.5–10.9

[a]Flour in terms of wheat equivalent.
[b]Western Europe, South Africa, Japan, United States and New Zealand.
[c]All countries not specified in (b) or (d).
[d]Eastern Europe, U.S.S.R., Cuba, Communist China, North Korea and North Vietnam.

TABLE 3—ACREAGES: WHEAT, RYE, OATS, BARLEY, MIXED GRAIN, CORN FOR GRAIN, CANADA AND PROVINCES, SELECTED PERIODS, 1955-67

Province	Average 1955–59	Average 1960–64	1965	1966	1967
			thousand acres		
WHEAT					
Canada	22,730	26,785	28,282	29,692	30,121
Prince Edward Island	4	4	4	2	2
Nova Scotia	1	1	1	1	2
New Brunswick	2	3	6	4	4
Quebec	15	10	12	29	29
Ontario	579	504	376	363	413
Manitoba	2,325	3,059	3,240	3,255	3,520
Saskatchewan	14,494	17,276	18,500	19,405	19,670
Alberta	5,253	5,834	6,050	6,506	6,380
British Columbia	58	93	93	127	101
RYE					
Canada	577	616	746	726	758
Quebec	7	4	3	5	5
Ontario	76	62	50	47	49
Manitoba	77	108	151	100	141
Saskatchewan	305	269	340	398	377
Alberta	110	171	200	172	183
British Columbia	2	2	2	3	3
OATS					
Canada	9,716	9,286	8,656	7,924	7,436
Prince Edward Island	92	94	89	86	80
Nova Scotia	42	35	31	26	24
New Brunswick	122	97	86	73	74
Quebec	1,271	1,248	1,165	1,002	1,018
Ontario	1,644	1,742	1,580	1,219	1,083
Manitoba	1,557	1,570	1,525	1,530	1,600
Saskatchewan	2,537	2,083	1,920	1,838	1,530
Alberta	2,362	2,334	2,200	2,082	1,960
British Columbia	88	85	60	69	67
BARLEY					
Canada	8,971	5,858	6,038	7,461	8,115
Prince Edward Island	1	7	12	12	18
Nova Scotia	2	1	3	4	6
New Brunswick	4	3	3	6	9
Quebec	30	19	15	16	17
Ontario	102	89	140	265	285
Manitoba	1,639	659	601	875	970
Saskatchewan	3,485	1,850	1,750	2,255	2,350
Alberta	3,642	3,147	3,390	3,880	4,280
British Columbia	65	83	124	150	180

TABLE 3—ACREAGES, WHEAT, RYE, OATS, BARLEY, MIXED GRAIN, CORN FOR GRAIN (Continued)

Province	Average 1955-59	Average 1960-64	1965	1966	1967
			thousand acres		
MIXED GRAIN					
Canada	1,513	1,459	1,506	1,767	1,668
Prince Edward Island	58	50	47	48	50
Nova Scotia	10	8	8	10	13
New Brunswick	6	7	8	10	8
Quebec	176	98	92	102	110
Ontario	902	715	740	845	815
Manitoba	87	132	146	184	178
Saskatchewan	62	111	125	153	127
Alberta	209	334	335	410	361
British Columbia	4	4	4	5	5
CORN FOR GRAIN					
Canada	514	502	752	807	876
Quebec	—	—	—	18	20
Ontario	507	496	740	786	850
Manitoba	7	6	12	3	6
ALL GRAINS					
Canada	44,021	44,506	45,980	48,377	48,974
Prince Edward Island	155	155	152	148	150
Nova Scotia	55	45	43	41	45
New Brunswick	134	110	103	93	95
Quebec	1,499	1,379	1,287	1,172	1,199
Ontario	3,810	3,608	3,626	3,525	3,495
Manitoba	5,692	5,534	5,675	5,947	6,415
Saskatchewan	20,883	21,589	22,635	24,049	24,055
Alberta	11,576	11,820	12,175	13,050	13,164
British Columbia	217	267	283	354	356

TABLE 4—SUPPLY AND PRICE SITUATION, CANADIAN GRAINS, SELECTED PERIODS, 1955-67 (CROP YEAR, AUGUST 1 TO JULY 31)

Item	Average 1955-56/ 1959-60	Average 1960-61/ 1964-65	1965-66 (Revised)	1966-67 (Preliminary)	1967-68 (Forecast)
			million bushels		
WHEAT[a]					
Stocks at August 1	617.3	509.0	513.0	420.1	577.1
Production	465.6	538.2	648.9	827.3	592.9
Imports	0.2	[b]	[b]	[b]	
Total supply	1,082.9	1,047.3	1,161.9	1,247.5	1,170.0[c]
Exports	293.8	407.4	584.9	516.3	
Stocks at July 31	629.8	491.7	420.1	577.1	
Domestic disappearance	159.3	148.2	156.9	154.0	
			dollars per bushel		
Farm price[d]	1.31	1.66	1.68		
			thousand bushels		
RYE[a]					
Stocks at August 1	13,468	5,834	8,302	10,567	8,267
Production	9,362	10,770	16,695	17,220	13,388
Imports	11	56	24	5	
Total supply	22,841	16,660	25,020	27,792	21,655[c]
Exports	6,310	4,929	8,050	9,963	
Stocks at July 31	10,832	6,144	10,567	8,267	
Domestic disappearance	5,700	5,588	6,404	9,562	
			dollars per bushel		
Farm price[d]	0.91	1.05	1.05		

TABLE 4—SUPPLY AND PRICE SITUATION, CANADIAN GRAINS, SELECTED PERIODS, 1955-67 (CROP YEAR, AUGUST 1 TO JULY 31) (Continued)

Item	Average 1955-56/ 1959-60	Average 1960-61/ 1964-65	1965-66 (Revised)	1966-67 (Preliminary)	1967-68 (Forecast)
			million bushels		
OATS[a]					
Stocks at August 1	140.2	124.9	130.1	127.2	109.9
Production	374.8	397.3	415.0	374.7	301.3
Imports	[b]	1.1	[b]	[b]	
Total supply	515.0	523.3	545.1	501.8	411.2[e]
Exports	12.5	12.4	15.9	4.8	
Stocks at July 31	143.6	130.8	127.2	109.9	
Domestic disappearance	358.9	380.1	402.0	387.2	
			dollars per bushel		
Farm price[d]	0.64	0.68	0.74		
			million bushels		
BARLEY[a]					
Stocks at August 1	118.9	101.3	88.8	97.8	131.9
Production	237.9	171.9	214.6	301.2	247.7
Imports	[b]	[b]	0.1	0.1	
Total supply	356.9	273.2	303.5	399.1	379.6[e]
Exports	72.9	37.9	38.0	58.6	
Stocks at July 31	126.3	93.3	97.8	131.9	
Domestic disappearance	157.6	142.0	167.7	208.6	
			dollars per bushel		
Farm price[d]	0.79	0.95	1.03		
			thousand bushels		
MIXED GRAINS					
Production	64,427	65,363	74,170	81,443	75,946
			dollars per bushel		
Farm price[d]	0.81	0.86	0.88		
			thousand bushels		
CORN FOR GRAIN					
Commercial stocks at August 1[c]	1,334	4,590	6,261	5,751	5,870
Production	30,718	35,571	59,648	66,328	72,078[f]
Imports	10,224	24,680	23,897	20,623	25,000
Total supply	42,276	64,840	89,806	92,702	102,948
Exports	817	340	530	269	
Commercial stocks at July 31[c]	1,511	5,397	5,751	5,870	
Domestic disappearance	39,948	59,104	83,525	86,563	
			dollars per bushel		
Farm price[d]	1.16	1.28	1.30		

[a]Includes grain products in terms of grain.

[b]Less than 50,000 bushels.

[c]Excluding imports.

[d]Average price received by farmers for all grades and varieties.

[e]Includes U.S. and other foreign corn.

[f]Estimated.

TABLE 5—ACREAGE OF TAME HAY[a], CANADA AND PROVINCES, SELECTED PERIODS, 1955-67

Province	Average 1955-59	Average 1960-64	1965	1966	1967
			thousand acres		
Canada	11,291	12,313	12,690	13,154	12,902
Prince Edward Island	201	181	181	192	180
Nova Scotia	296	234	229	226	218
New Brunswick	374	288	275	243	234
Quebec	3,464	3,389	3,415	3,378	3,353
Ontario	3,278	3,249	3,100	3,418	3,440
Manitoba	713	1,020	1,090	1,065	1,052
Saskatchewan	785	1,051	1,112	1,246	1,100
Alberta	1,829	2,499	2,830	2,938	2,875
British Columbia	351	402	458	458	450

[a]Including clover and alfalfa.

TABLE 6—SUPPLY AND PRICE SITUATION, TAME HAY[a], CANADA, SELECTED PERIODS, 1955-67 (CROP YEAR, AUGUST 1 TO JULY 31)

Item	Average 1955-56/ 1959-60	Average 1960-61/ 1964-65	1965-66 (Revised)	1966-67 (Preliminary)	1967-68 (Forecast)
			thousand tons		
Production	19,412	21,864	21,099	26,049	24,882
			dollars per ton		
Farm price[b]	15.30	16.25	20.75		

[a]Including clover and alfalfa.

[b]Average price received by farmers for all grades and varieties.

TABLE 7—SUPPLY AND PRICE SITUATION, MILLFEEDS (BRAN, SHORTS AND MIDDLINGS), CANADA, SELECTED PERIODS, 1955-67 (CROP YEAR, AUGUST 1 TO JULY 31)

Item	Average 1955-56/ 1959-60	Average 1960-61/ 1964-65	1965-66 (Revised)	1966-67 (Preliminary)
		tons		
Stocks at August 1	8,672	8,224	4,782	6,621
Production	676,215	670,666	724,425	667,140
Total supply	684,887	678,890	729,207	673,761
Exports	89,879	89,482	112,420	101,817
Stocks at July 31	9,113	6,899	6,621	4,420
Domestic disappearance	585,895	582,509	610,166	567,524
		dollars per ton		
Price of bran at Toronto[a]	55.07	59.25	64.33	69.38
Price of shorts at Toronto[a]	60.64	64.02	66.17	71.79

[a]Average of mid-month quotations for carlots, f.o.b. Toronto; freight assistance payments deducted.

TABLE 8—FREIGHT-ASSISTED SHIPMENTS OF WESTERN GRAINS INTO EASTERN CANADA AND BRITISH COLUMBIA, CROP YEARS 1955-56-1966-67 (CROP YEAR, AUGUST 1 TO JULY 31)

Item	Average 1955-56/ 1959-60	Average 1960-61/ 1964-65	1965-66 (Revised)	1965-66 (Preliminary)	1966-67 (Preliminary)
			thousand bushels		
Wheat	20,711	13,982	17,196	15,552	16,461
Oats	39,280	30,336	36,851	34,238	39,001
Barley	27,773	28,618	29,328	26,959	34,976
Rye	108	81	723	677	1,083
Corn	86	37	21	21	67
Totals	87,958	73,055	84,119	77,448	91,588
			tons		
Totals, 5 grains	1,961,072	1,625,388	1,867,059	1,715,181	2,028,482
Screenings	92,363	94,198	95,424	81,586	120,669
Millfeeds	551,408	535,657	524,846	468,903	491,044
Totals	2,604,843	2,255,243	2,487,329	2,265,670	2,640,195

TABLE 9—FEED CONCENTRATE BALANCE, NUMBERS OF ANIMAL UNITS AND FEED PER UNIT, CANADA, CROP YEARS, BEGINNING AUGUST 1, AVERAGE 1961-65, ANNUAL 1961-67

Item	Average 1961-65	1961	1962	1963	1964	1965 (Revised)	1966 (Preliminary)	1967 (Forecast)
				million tons				
Supply								
Stocks beginning crop year[a]	4.6	4.8	3.0	4.8	6.0	4.5	4.7	5.2
Production of feed grains:								
corn	1.2	0.8	0.9	1.0	1.5	1.7	1.9	2.0
oats	6.8	4.8	8.4	7.7	6.1	7.1	6.4	5.2
barley	4.2	2.7	4.0	5.3	4.0	5.1	7.2	5.8
mixed grain and buckwheat	1.4	1.3	1.5	1.4	1.4	1.5	1.7	1.6
Total production	13.6	9.6	14.8	15.4	12.9	15.4	17.1	14.6
Imports of feed grains	0.7	0.9	0.9	0.7	0.5	0.7	0.6	0.7
Wheat and rye fed	1.5	1.4	1.4	1.7	1.5	1.7	1.8	1.9
By-product feeds fed	1.5	1.4	1.4	1.5	1.5	1.6	1.6	1.5
Total supply	22.0	18.1	21.4	24.0	22.4	23.8	25.7	23.9
Utilization								
Concentrates fed[b]								
corn	1.4	1.1	1.4	1.2	1.4	1.8	1.9	2.2
oats	6.0	4.9	6.3	6.4	6.2	6.4	6.2	5.5
barley	2.8	2.4	2.2	2.9	3.2	3.3	4.2	5.0
mixed grain and buckwheat	1.3	1.2	1.4	1.3	1.3	1.4	1.6	1.5
wheat and rye	1.5	1.4	1.4	1.7	1.5	1.7	1.8	1.9
oilseed cake and meal	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5
animal protein feeds	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
other by-product feeds	0.7	0.8	0.7	0.8	0.7	0.8	0.7	0.8
Total concentrates fed	14.5	12.5	14.1	14.9	15.0	16.1	17.2	17.7
Feed grains for seed, human food and industry	1.7	1.6	1.7	1.6	1.7	1.8	1.8	1.8
Exports	1.1	1.1	0.8	1.5	1.2	1.2	1.5	0.9
Total utilization	17.4	15.2	16.6	18.0	17.9	19.1	20.5	20.5
Stocks at end of crop year[a]	4.6	3.0	4.8	6.0	4.5	4.7	5.2	3.6
Supply and utilization per animal unit								
Total supply (mil. tons)	22.0	18.1	21.4	24.0	22.4	23.8	25.7	23.9
Concentrates fed (mil. tons)	14.5	12.5	14.1	14.9	15.0	16.1	17.2	17.7
Grain-consuming animal units, June 1 (mil.)	16.0	16.0	15.5	15.8	16.5	16.2	16.6	17.3
Supply per animal unit (tons)	1.38	1.13	1.38	1.52	1.36	1.47	1.55	1.38
Concentrates fed per animal unit (tons)	.91	.78	.91	.94	.91	.99	1.04	1.02

[a]Total stocks of oats and barley and commercial stocks of corn only.
[b]Total quantities fed in Canada, including domestically produced and imported grains and by-product feeds.
Note: Due to rounding the sums of individual items may not agree exactly with the totals.

TABLE 10—MONTHLY AND YEARLY AVERAGE PRICES, CANADA, BASIS IN STORE, FORT WILLIAM-PORT ARTHUR, SELECTED PERIODS, 1957-67

Month	Five-Year Average: 1957–62	1962–63	1963–64	1964–65	1965–66	1966–67	1967–68
			(cents per bushel)				
			Wheat No. 1 Northern				
August	168	197	193	205	193	211	204
September	168	199	193	205	193	212	193
October	168	198	201	204	195	211	
November	168	197	204	204	195	212	
December	169	195	204	204	196	213	
January	171	196	206	202	198	212	
February	172	196	208	192	201	212	
March	171	196	208	193	202	213	
April	171	196	207	193	203	213	
May	172	195	206	193	204	213	
June	173	196	206	193	207	211	
July	174	195	206	194	210	207	
Yearly Average	170	196	203	198	200	212	
			1 C. W. Amber Durum				
August	211	312	226	211	193	225	232
September	215	284	208	209	193	227	232
October	218	262	217	208	195	227	
November	216	264	222	200	195	228	
December	217	262	222	191	196	229	
January	218	262	223	191	198	228	
February	220	256	219	192	201	228	
March	219	241	218	193	202	228	
April	219	239	216	193	203	224	
May	222	237	214	193	204	224	
June	223	234	214	193	208	223	
July	235	233	214	194	218	222	
Yearly Average	220	257	218	197	201	226	
			2 C. W. Rye				
August	111	124	136	133	124	134	131
September	113	126	156	137	123	131	126
October	114	132	159	130	124	126	
November	113	128	155	126	123	128	
December	110	136	156	125	126	132	
January	109	146	160	124	136	130	
February	112	147	152	126	137	133	
March	113	146	143	125	129	137	
April	114	149	141	121	129	137	
May	115	143	136	210	125	137	
June	116	136	136	120	131	135	
July	117	134	134	119	135	138	
Yearly Average	113	137	147	126	129	133	
			Feed Wheat				
August	138	180	166	180	168	187	186
September	139	181	166	180	168	189	177
October	140	180	174	180	168	190	
November	141	180	177	179	168	191	
December	143	177	178	179	169	192	
January	144	176	179	177	172	191	
February	146	177	181	167	174	191	
March	146	176	181	168	176	192	
April	146	174	180	168	177	192	
May	147	171	179	168	178	192	
June	148	170	179	168	181	191	
July	150	170	180	168	185	188	
Yearly Average	144	176	176	174	174	190	

TABLE 10—MONTHLY AND YEARLY AVERAGE PRICES, CANADA, BASIS IN STORE, FORT WILLIAM-PORT ARTHUR, SELECTED PERIODS, 1957-67 (Concluded)

Month	Five-Year Average: 1957–62	1962–63	1963–64	1964–65	1965–66	1966–67	1967–68
				(cents per bushel)			
				1 Feed Oats			
August	78	84	74	77	81	90	91
September	78	78	76	78	82	90	92
October	77	74	76	79	82	90	
November	75	75	75	79	82	90	
December	75	79	74	79	82	90	
January	75	80	75	79	85	87	
February	75	79	73	79	88	87	
March	75	78	74	79	89	87	
April	75	77	74	79	88	87	
May	76	77	75	79	87	87	
June	77	77	75	79	89	88	
July	80	76	76	80	90	89	
Yearly Average	76	78	75	79	86	88	
				No. 1 Feed Barley			
August	101	123	106	118	125	134	128
September	102	122	109	120	128	133	125
October	104	123	113	121	128	133	
November	101	123	110	122	128	133	
December	101	123	111	122	130	133	
January	102	125	114	123	132	128	
February	102	125	111	125	134	124	
March	102	122	112	125	130	123	
April	103	120	112	124	128	124	
May	103	116	112	125	127	124	
June	102	114	114	124	127	126	
July	106	112	114	124	130	127	
Yearly Average	102	121	111	123	129	129	

TABLE 11—MONTHLY AND YEARLY AVERAGE PRICES OF ONTARIO CORN SELECTED PERIODS, 1957-67

Month	Five-Year Average: 1957–62	1962–63	1963–64	1964–65	1965–66	1966–67	1967–68
				Cents per bushel			
				Corn No. 2 Yellow[a]			
August	130	136	159	146	154	153	149
September	128	131	155	153	153	157	149
October[b]	116	120	130	128	120	146	
November	111	122	131	124	125	148	
December	116	135	139	127	138	153	
January	120	141	143	132	140	154	
February	121	140	138	137	142	154	
March	122	140	138	139	142	153	
April	125	139	141	142	142	154	
May	128	140	144	148	143	154	
June	129	149	148	151	148	154	
July	130	152	145	151	148	155	
Yearly Average	123	137	143	140	141	153	

[a]Buying prices, carlots, f.o.b. Chatham, 15 per cent moisture (natural or kiln dried).
[b]New crop corn.

TABLE 12—OILSEEDS: ACREAGE IN CANADA BY PROVINCE, 1955-67

Province	Average 1955-59	Average 1960-64	1965	1966	1967
			acres		
FLAXSEED					
Canada	2,593,080	1,940,860	2,320,000	1,917,700	1,107,400
Quebec		21,320	28,000	18,500	17,000
Ontario	18,340	21,840	24,000	14,500	7,000
Manitoba	662,000	793,400	1,350,000	1,107,000	718,000
Saskatchewan	1,411,200	713,200	560,000	429,000	193,000
Alberta	493,400	388,000	355,000	347,000	171,000
British Columbia	8,140	3,100	3,000	1,700	1,400
RAPESEED					
Canada	389,380	622,700	1,435,000	1,525,000	1,726,000
Manitoba	19,320	44,700	145,000	170,000	176,000
Saskatchewan	328,000	320,800	555,000	731,000	675,000
Alberta	42,060	257,200	735,000	624,000	875,000
SOYBEANS					
Canada	248,040	223,700	265,000	279,000	290,000
Ontario	244,600	223,600	265,000	279,000	290,000
Manitoba	n.a.	n.a.			
SUNFLOWER SEED					
Canada	36,140	42,380	68,000	40,100	44,000
Manitoba	32,000	32,800	48,000	32,000	44,000
Saskatchewan		n.a.	16,500	6,100	
Alberta	n.a.	4,280	3,500	2,000	

n.a. Not available.

TABLE 13—OILSEEDS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1955-67 (CROP YEAR AUGUST 1 TO JULY 31)

Item	Average 1955–56/ 1959–60	Average 1960–61/ 1964–65	1965–66	1966–67 (Preliminary)	1967–68 (Forecast)
			thousand bushels		
FLAXSEED					
Stocks at August 1	5,068	5,642	7,141	11,141	11,754
Production	22,544	18,904	29,254	22,020	10,212
Imports	259	15	1	2	
Total supply	27,871	24,562	36,396	33,163	21,966
Exports	14,717	13,228	18,936	16,568	
Stocks at July 31	5,516	6,106	11,141	11,754	
Domestic disappearance	7,638	5,228	6,319	4,841	
			dollars per bushel		
Average farm price (all grades)	2.71	3.00	2.71		
			thousand bushels		
RAPESEED					
Stocks at August 1	n.a.	873	1,514	3,365	5,789
Production	5,508	9,958	22,600	25,800	26,500
Total supply	n.a.	10,831	24,114	29,165	32,289
Exports	n.a.	7,060	13,632	13,818	
Stocks at July 31	n.a.	1,148	3,365	5,789	
Domestic disappearance	n.a.	2,622	7,116	9,559	
			dollars per bushel		
Average farm price (all grades)	1.67	2.15	2.41		
			thousand bushels		
SOYBEANS					
Production	6,256	6,044	8,030	9,012	8,294
Imports	11,088	14,500	17,058	16,294	
Total supply	17,344	20,543	25,088	25,306	
Exports	2,071	2,458	2,152	3,599	
Available for domestic use	15,272	18,085	22,035	21,707	
			dollars per bushel		
Average farm price (all grades)	1.99	2.49	2.70		
			thousand pounds		
SUNFLOWER SEED					
Production (Canada)	20,058	28,281	29,225	39,270	37,400
			cents per pound		
Average farm price	0.043	0.047	0.059		

n.a. Not available.

HOGS

Situation

Hog gradings—Hog gradings in Canada to September 30, 1967 totaled 5,984,267 head (weekly average 153,442) compared with 4,958,204 gradings (weekly average 127,133) for the corresponding period in 1966, an increase of 20.7 per cent.

For the first nine months of 1967 hog gradings in both Western and Eastern Canada were substantially above year-earlier levels by 22.1 and 19.9 per cent, respectively. All provinces recorded a sharp increase. With the exception of 1959, hog slaughter in Canada for the January to September period 1967 has been the heaviest since 1944. Also, inspected slaughter in the United States to the end of August 1967 was up 15.6 per cent over the first eight months of 1966. The main incentive for the heavy hog slaughter in 1967 was the high level of hog prices that prevailed during 1966 and in particular during the first half of 1966 when hog prices in both Canada and the U.S.A. reached record levels. In Canada slaughter has exceeded year-before levels since September 1966, and in United States since August 1966. Although gradings in Canada and inspected slaughter in the U.S.A. in 1967 have both been consistently above year-earlier levels, this difference showed signs of becoming less pronounced beginning with the first three weeks in October, when gradings averaged 167,603, an increase of 11.8 per cent over the same weeks a year earlier. In the U.S.A. for the month of September 1967, hog slaughter was only about 8 per cent above the same month a year earlier. This is in sharp contrast to January, when in both countries hog slaughter exceeded the same month one year before by over 30 per cent.

Domestic disappearance—Domestic disappearance of pork from commercial supplies in the January to August period of 1967 is estimated to average the equivalent of 147,200 carcasses per week, up 19 per cent from the weekly average of 123,400 carcasses during the same months in 1966. This is the highest weekly average of domestic disappearance of carcasses for the January to August period on record.

Exports—Exports of pork from Canada to the end of August, 1967 were 40.9 million pounds, compared with 35.2 million in 1966, but below the 43.6 million for the same period in 1965. Imports during the first eight months of 1967 were down to 18.7 million pounds, compared with 22.2 million in 1966 and virtually the same as the 18.9 million pounds in the first eight months of 1965.

Prices—Beginning in June 1965, hog prices in both Canada and the United States moved up sharply. In both countries, the upward trend in hog prices continued into 1966 and during the first two months remained at very high levels. Since March 1966, the movement of hog prices in both Canada and the United States has been downward, with reduction in hog slaughter becoming less pronounced than a year earlier. By mid-summer 1966, the downswing in hog production in both countries was over. Since then production has increased and hog prices have declined.

ORIGIN OF CARCASSES GRADED BY PROVINCE, JANUARY 1 TO END OF SEPTEMBER, 1966 AND 1967

	1966	1967	Per Cent Change
	number		per cent
Newfoundland	6,364	7,869	+23.6
Prince Edward Island	80,845	94,947	+17.4
Nova Scotia	58,662	67,861	+15.7
New Brunswick	23,899	32,014	+34.0
Quebec	1,145,342	1,443,156	+26.0
Ontario	1,863,844	2,165,362	+16.2
East	3,178,956	3,811,209	+19.9
Manitoba	419,571	545,800	+30.1
Saskatchewan	324,676	431,805	+33.0
Alberta	1,010,138	1,159,645	+14.8
British Columbia	24,863	35,808	+14.0
West	1,779,248	2,173,058	+22.1
Canada	4,958,204	5,984,267	+20.7

CANADA: WEEKLY AVERAGE HOG GRADINGS BY MONTHS; UNITED STATES: TOTAL INSPECTED SLAUGHTER BY MONTHS; 1966 TO DATE

	Canada				United States			
	1966	Change from 1965	1967	Change from 1966	1966	Change from 1965	1967	Change from 1966
	thousand	per cent	thousand	per cent	thousand	per cent	thousand	per cent
January	120.3	−19.9	156.9	+30.4	4,719	−22.0	6,281	+33.1
February	129.7	−11.4	154.4	+19.0	4,650	−12.3	5,650	+21.5
March	138.2	−10.0	155.4	+12.4	5,806	−11.2	6,626	+14.1
April	132.8	−10.5	164.2	+23.6	5,303	− 8.6	5,870	+10.7
May	126.4	−10.7	150.7	+19.2	4,913	+ 4.1	5,306	+ 8.0
June	121.0	− 5.7	149.3	+23.4	4,672	− 1.0	5,178	+10.8
July	117.0	− 6.2	145.6	+24.4	4,228	− 4.5	4,743	+12.2
August	124.2	− 0.3	148.4	+19.5	5,088	+ 7.1	5,808	+14.1
September	132.2	+ 2.0	156.1	+18.1	5,888	+ 7.5	6,334[a]	+ 7.7
October	150.7	+14.3			6,047	+11.5		
November	154.2	+14.0			6,200	+12.7		
December	136.4	+12.0			6,215	+24.0		
Year	131.9	− 3.1			63,729	+ 0.03		

[a] Preliminary.

TORONTO: MONTHLY AVERAGE, GRADE "A". CHICAGO: MONTHLY AVERAGE PRICES FOR BARROWS AND GILTS (NOS. 1, 2 AND 3, 200-220 POUNDS) BY MONTHS, JANUARY 1965 TO DATE

	Toronto Dressed			Chicago					
				Live			Dressed Equivalent		
	1965	1966	1967	1965	1966	1967	1965	1966	1967
	Can. $ per cwt.			U.S. $ per cwt.					
January	27.44	42.73	32.31	17.02	29.17	20.67	22.69	38.89	27.56
February	28.23	43.19	33.39	17.62	28.73	20.23	23.49	38.31	26.97
March	27.80	36.12	31.69	17.62	25.50	19.05	23.49	33.60	25.40
April	27.94	32.90	29.93	18.38	23.59	18.28	24.51	31.45	24.37
May	30.46	36.83	32.52	21.16	24.78	23.00	28.21	33.04	30.67
June	34.81	38.29	32.38	24.21	25.89	22.98	32.38	34.52	30.64
July	36.24	35.12	30.44	24.84	25.68	23.30	33.12	34.24	31.07
August	36.66	33.98	30.26	25.10	26.10	21.35	33.40	34.80	28.47
September	36.88	33.92	30.08	23.38	23.59	19.90[a]	31.17	31.45	26.53[a]
October	35.90	33.94		24.10	22.25		32.13	29.67	
November	37.58	33.79		25.31	21.33		33.75	28.44	
December	41.64	33.00		28.79	21.47		38.39	28.63	
Year	33.40	35.90		22.29	24.82		29.72	33.09	

[a] Preliminary.

Hog prices in the U.S.A. and Canada tend to follow a four-year cycle—two years of lower prices followed by two years of higher prices. Average yearly prices for live barrows and gilts at Chicago in 1963 and 1964 were $16.07 and $16.16 per hundredweight respectively (two-year average $16.11). Then in 1965 and 1966 higher prices prevailed, with barrows and gilts at Chicago averaging $22.29 and $24.82 respectively (two-year average $23.56). The general pattern of hog prices for Grade "A" carcasses at Toronto was the same and in 1963 and 1964 were $27.80 and $27.30 respectively (two-year average $27.55). Then higher prices prevailed in 1965 and 1966, with Grade "A" at Toronto averaging $33.40 and $35.90 respectively, (two-year average $34.65). To date in 1967, monthly Grade "A" prices at Toronto have been below 1966 monthly levels. Through this downswing of hog prices in 1967, in both Canada and the U.S.A., prices have been at relatively higher levels compared

with the historic pattern when prices turned lower due to increased slaughter. This higher price pattern indicates that hog prices in recent years have apparently reached a new plateau from which to stage the ups and downs in the hog cycle. For example, the monthly average live price of choice barrows and gilts at Chicago has not been below $17.00 per hundredweight since December, 1964.

Outlook

Hogs on Farms in Canada—The Dominion Bureau of Statistics, September 1, 1967, Quarterly Hog Survey shows 6.2 million hogs on farms, up 6 per cent from one year earlier. The increase amounted to 4 per cent in the East and 8 per cent in the West. Farmers indicated that farrowings in the September to November period 1967, may be up 9 per cent in Canada; 7 per cent in the West and 11 per cent in the East.

The Hog Survey also shows that hog producers in Canada are beginning to slow down the rate of increase in hog numbers over year-earlier levels. The 6 per cent increase in hog numbers on farms September 1, 1967 follows five quarterly D.B.S. hog surveys which recorded increases of 6, 11, 14, 13 and 11 per cent in that order respectively over the same date one year earlier. This lessening in the build up of hog numbers is not unusual as hog prices have been declining since mid-1966.

Hogs on Farms in United States—The September 1, U.S. Department of Agriculture Pig Crop Report shows that the number of pigs on farms in 10 Corn Belt States was down 2 per cent from September 1, 1966. Farmers in the 10 Corn Belt States reported that they plan to reduce farrowings by 1 per cent in the fall period (September-November) and 2 per cent in the winter period (December-February).

Gradings in Canada—Gradings for the third quarter (July to September) of 1967 averaged 150,047 head per week, up 20.3 per cent from the weekly average of 125,047 for the same quarter in 1966. Hog gradings in the fourth quarter of 1967 (October to December) are expected to average 164,100 head per week, an increase of 12 per cent over the last quarter of 1966. For the year as a whole, hog gradings are expected to be up 17 per cent over 1966. Farrowings during June to August, 1967, are estimated to be 4 per cent above the same period of 1966. During the first quarter of 1968 gradings are expected to be 5 to 7 per cent higher than in the same quarter in 1967. Gradings for the second and third quarters (April-September combined) in 1968 may be slightly above the 1967 levels (average weekly gradings 152,400). It should be noted that the D.B.S. September 1967 Quarterly Hog Survey indicates a more substantial increase in the second and third quarters. Gradings in the last quarter of 1968 will depend upon the 1968 spring farrowings which are expected to be below 1967 spring farrowings.

Marketings in United States—According to the U.S. Department of Agriculture, hog marketings during the fourth quarter of 1967 and the first quarter of 1968 likely will be about the same as or a little smaller than in those quarters a year earlier. The June-August 1967 pig crop in 10 Corn Belt States was 1 per cent below 1966 levels. However, the continued high receipts during the first three weeks in October indicate that the late spring pig crop possibly was somewhat larger than that of 1966. The U.S. Department of Agriculture has estimated the fall pig crop (farrowings September 1967 to February 1968) to be 1 to 2 per cent below the same six-month period a year earlier. This could result in hog marketings for the first half of 1968 slightly below the high levels that prevailed during the first half of 1967.

Fall marketings in 1968 will depend on the size of the 1968 spring pig crop. Since May 1967, the hog-corn price ratio has become increasingly more favorable. In April 1967, the ratio was 13.5 the lowest since March 1965. By August the ratio had increased to 17.4, compared with 17.5 for August 1966. For the fourth quarter of 1966 the hog-corn ratio averaged 15.3. According to the U.S. Department of Agriculture a more favorable price ratio this fall may stabilize or perhaps even increase spring farrowings. For example, $20.00 hogs and $1.00 corn would make a ratio 20 to 1. Such a favorable price relationship for hog producers could encourage many of them to increase spring farrowings.

CANADA: QUARTERLY ESTIMATES OF HOG GRADINGS (WEEKLY AVERAGE IN THOUSANDS)

	Actual 1966	Estimated 1967	Per Cent Change
October-December	146,300	164,100	+12
	Actual 1967	**Estimated 1968**	**Per Cent Change**
January-March	155,500	164,600	+ 6
April-September	152,400	154,700	+ 2

UNITED STATES HOG-CORN PRICE RATIO

	1949	1960	1961	1962	1963	1964	1965	1966	1967
January	13.8	10.9	15.8	16.0	13.3	12.2	12.9	21.8	14.1
February	15.6	12.0	16.1	15.5	12.8	12.4	13.4	21.7	14.2
March	15.3	13.5	15.9	14.7	11.6	12.0	13.1	19.6	13.5
April	13.6	13.4	15.9	14.4	11.7	11.6	13.5	17.5	13.1
May	13.9	13.3	14.7	13.6	12.4	11.8	15.3	18.4	16.4
June	15.3	14.1	15.0	14.9	13.4	12.9	17.6	18.8	16.6
July	15.3	14.8	15.7	16.4	14.5	14.3	18.7	18.0	17.5
August	16.4	14.3	16.2	17.0	13.3	13.9	19.5	17.5	17.4
September	15.8	14.3	16.6	17.1	11.9	13.5	18.0	16.3	16.6
October	15.7	16.7	16.7	15.5	13.3	13.0	20.0	16.0	
November	13.9	18.4	14.9	15.6	12.9	12.5	21.9	15.7	
December	11.9	17.2	15.7	14.6	12.2	12.8	23.4	14.2	
Year	14.7	14.4	15.7	15.4	12.7	12.6	16.9	17.9	

Prices—For the week ended October 14, 1967 Grade "A" hog prices at Toronto averaged $29.45 dressed and Choice barrows and gilts at Chicago averaged about $18.60 alive. The U.S. Department of Agriculture estimates that the late spring pig crop was 1 per cent smaller than in 1966. These pigs, born in the second quarter, will be marketed mainly in October to December; therefore, it is expected that hog prices may strengthen a little during the last quarter if the estimates of spring farrowings prove accurate. On September 1, U.S. producers reported that they intended to farrow 1 per cent less sows in the fall quarter (September-October-November) than during the same three months a year ago and expect to have 2 per cent less sows in the last quarter (December-January-February). This indicates that from October to late next summer marketings should be a little less than during the same period a year earlier. This may result in prices, for the first three quarters, in the $19.00-$22.00 range. It is now evident that the hog-corn ratio will be higher this fall (October-November-December) compared with the year-earlier period and this may encourage hog producers to increase spring farrowings.

The spring pig crop may turn out to be as large as, or even larger than, this year. Any large expansion would bring low prices in the fall and winter of 1968-1969.

Allowing for the relationship between hog prices at Chicago and Toronto, prices in Canada may not show any sizeable rise from present levels between now and the fall of 1968. Prices during the last quarter of 1968 will depend largely on the extent of the increase, if any, in the spring crop, particularly in the U.S.A.

According to the 1966 census the structure of the Canadian hog industry has changed rapidly since 1961.

AVERAGE NUMBER PIGS ON FARMS, CANADA, 1961 AND 1966

	1961		1966	
	Census farms reporting	Average number pigs on farms	Census farms reporting	Average number pigs on farms
	numbers		numbers	
Newfoundland	135	12	150	49
Prince Edward Island	3,874	14	2,824	29
Nova Scotia	3,774	12	2,132	27
New Brunswick	5,087	9	2,893	12
Quebec	47,599	19	30,683	38
Ontario	53,378	30	41,827	46
EAST	116,847	24	80,509	41
Manitoba	22,045	20	16,048	31
Saskatchewan	40,693	16	26,987	18
Alberta	41,017	36	28,544	38
British Columbia	2,799	15	2,240	17
WEST	106,554	24	73,819	29
CANADA	223,402	24	154,328	35

For Canada, the drop in the number of farms reporting hogs totaled 69,074, or nearly 31 per cent. The corresponding figures for the East are 36,308, about 31 per cent, and for the West 32,735, close to 31 per cent. Of the three major hog producing provinces (Ontario, Quebec and Alberta) Quebec had the greatest reduction in numbers of farms and in percentage drop—a total of 16,916 farms, 35.5 per cent, and the greatest gain in average number of pigs per farm—from 19 to 38, a 100 per cent increase. It is significant that, although the number of farms declined by nearly one-third, the total number of hogs increased from 5.3 million to 5.4 million.

Hog production in Canada is becoming increasingly more concentrated in the hands of fewer producers and more of the pork supply is coming from larger specialized farms. There will continue to be some contraction and expansion of hog production in response to changes in hog prices. However, fluctuations in slaughter levels are expected to be more moderate in the future.

CATTLE

Situation

Cattle marketings—Cattle sold on public stockyards and shipped direct to packing plants in Canada, in the January to September period of 1967 totaled 2,377,582 head (60,964 weekly), down 3.1 per cent from the total of 2,452,873 head (62,894 weekly) in 1966. Marketings were down 0.2 per cent in Western Canada and in Eastern Canada down 8.5 per cent. With the exception of British Columbia and Alberta, all provinces in Canada showed some decrease.

Inspected slaughter (beef gradings) to September 30, 1967, totaled 1,963,741 head (50,352 weekly), a decrease of 1.5 per cent from the total of 1,993,-354 head (51,111 weekly) for the corresponding period of 1966. Beef gradings in Western Canada were up 1.5 per cent while in Eastern Canada gradings were down 5.4 per cent.

The ever increasing feedlot finishing of cattle in Canada is reflected in the heavy marketings of fed cattle. Combined Choice and Good gradings constituted 57.2 per cent of total inspected slaughter for the first nine months of 1967, with an average of 28,809 head per week, an increase of 6.5 per cent, or 1,755 head per week over the first nine months of 1966. The corresponding weekly average for the last four years is 27,054 for 1966; 26,447 for 1965; 28,012 for 1964; 21,967 for 1963.

The makeup of the beef kill with respect to sex shows that to the end of September 1967, steer and heifer slaughter was up by 4 per cent and 5 per cent respectively, over 1966 levels. On the other hand, cow slaughter to the end of September was 16 per cent below that of a year earlier. Cow slaughter reached a peak in 1964 and 1965, with cattle numbers in Canada showing their first downswing in 1966 after seven consecutive years of increase (from a "low" at June 1, 1958, of 10,990,000 to a "high" of 13,001,000 head at June 1, 1965).

From June 1966 to August 1967 a period of about 14 months, cow slaughter was below year-earlier monthly numbers. Heifer slaughter increased in April 1967, after remaining below year-earlier monthly levels from May 1966, or for a period of about one year. The increase in heifer slaughter reflects the growing numbers of heifers going into feedlots. The historic prejudice against heifers is

CATTLE MARKETINGS ON PUBLIC STOCKYARDS AND DELIVERED DIRECT TO PACKING PLANTS

	January to September		Change in number	Per cent Change
	1966	1967		
	number			
British Columbia	36,315	39,341	+ 3,026	+ 8.3
Alberta	870,010	872,392	+ 2,382	+ 0.3
Saskatchewan	453,545	449,542	− 4,003	− 0.9
Manitoba	250,090	244,909	− 5,181	− 2.1
West	1,609,960	1,606,184	− 3,776	− 0.2
Quebec	86,901	73,240	−13,661	−15.7
Ontario	725,235	672,687	−52,548	− 7.2
Maritime	30,777	25,471	− 5,306	−17.2
East	842,913	771,398	−71,515	− 8.5
Canada	2,542,873	2,377,582	−75,291	− 3.1

SEX PATTERN: AVERAGE WEEKLY INSPECTED SLAUGHTER IN CANADA DURING THE PERIOD JANUARY-SEPTEMBER, 1965 TO 1967

	1965		1966		1967		Per Cent Change 1967/1966
	Number	Per Cent	Number	Per Cent	Number	Per Cent	
Steers	969,857	49.0	973,109	48.8	1,014,080	51.6	+ 4.2
Heifers	413,425	20.9	408,076	20.5	430,652	21.9	+ 5.5
Cows	544,981	27.5	569,927	28.6	478,554	24.4	−16.0
Bulls	52,421	2.6	42,242	2.1	40,455	2.1	− 4.2
Total	1,980,684	100.0	1,993,354	100.0	1,963,741	100.0	− 1.5

rapidly disappearing. Probably largely due to the fact that there are not enough steers to fill the feedlots. Steer slaughter decreased in July, 1967, after being above year-earlier monthly rates from April 1966, a period of 15 months.

The domestic disappearance of beef from commercial supplies during the first eight months of 1967 averaged 51,100 head per week, compared to 50,700 head for the same period in 1966, an increase of 1 per cent. In terms of pounds, domestic disappearance is up by 2 per cent.

External Trade of Dressed Beef and Veal—Exports of beef and veal from Canada to the end of August 1967, were approximately 25.1 million pounds, compared with 49.9 million pounds during the same period in 1966. The decrease in exports of dressed beef reflects in part the smaller volume of cow slaughter during 1967, the main source of boneless beef for exports. An additional factor to date in 1967, is the exceptionally strong domestic market for beef in Canada. Imports of dressed beef for the first eight months of 1967 are estimated at 34.6 million pounds, compared with 24.7 million pounds in 1966 and 22.6 million pounds in 1965.

Exports of Live Cattle—To September 30, 1967 exports of feeder cattle to the U.S. totaled 40,828 head, compared with 151,712 in 1966 and 152,675 head in 1965, for the corresponding time period. The sharp decline in feeder cattle exports is due to the strong demand from feedlot operators in Canada, following a favorable year, and ample feed supplies, particularly in Ontario. The severe weather conditions last spring, particularly in Southern Alberta, has slightly reduced the total supply of feeder cattle.

Exports of slaughter cattle to September 30, 1967 at only 6,752 head are well below the total of 32,-358 head for the same period in 1966 and the 42,670 head in 1965.

Fed Cattle Prices in Canada—Throughout most of 1965 fed cattle prices in Canada were on an "export

SEX PATTERN: AVERAGE WEEKLY INSPECTED SLAUGHTER IN THE NINE MONTHS PERIOD JANUARY-SEPTEMBER, 1966 AND 1967

	Steers			Heifers			Cows		
	1966	1967	Per Cent Change	1966	1967	Per Cent Change	1966	1967	Per Cent Change
	number			number			number		
January	22,961	23,383	+ 1.8	12,602	11,991	− 4.8	19,186	14,743	−23.2
February	20,966	23,113	+12.9	11,789	11,661	− 1.1	16,825	12,673	−24.7
March	22,560	24,928	+10.8	11,018	10,982	− 0.3	15,847	11,052	−30.3
April	24,774	28,855	+16.5	9,546	10,488	+ 9.8	13,672	10,654	−22.1
May	28,114	29,927	+ 6.4	9,044	9,313	+ 3.0	13,252	10,330	−22.0
June	26,995	27,622	+ 2.3	9,862	10,431	+ 5.7	12,841	10,369	−19.3
July	26,808	25,704	− 4.1	9,713	10,847	+11.6	12,948	12,209	− 5.7
August	25,279	25,085	− 0.8	10,495	11,926	+13.6	12,978	13,404	+ 3.3
September	26,345	25,430	− 3.5	10,183	11,736	+15.2	14,209	15,031	+ 6.1
Total	973,109	1,014,080	+ 4.2	408,076	430,652	+ 5.5	569,927	478,554	−16.0

basis", with Choice steers at Toronto and Omaha averaging $25.20 and $24.99, respectively. For the first nine months of 1966, cattle prices in Canada were either at or close to the export basis. For the period January to September 1966, Choice steers at Toronto averaged $27.05 (simple average) and at Omaha, in U.S. dollars, Choice steers averaged $26.25 (simple average). During this nine month period exports of slaughter cattle totaled about 33,000 head. During the last quarter of 1966 prices at Toronto were sometimes on an "import basis" and approximately 7,700 slaughter cattle came into Canada. In December 1966, Choice steers averaged $28.12 at Toronto and $23.92 at Omaha, a difference of $4.20 per hundredweight.

The situation that prevailed during the fourth quarter of 1966 has continued in 1967. Fed cattle prices in Canada have been at all times well above the "export basis". During this time exports of slaughter cattle have been relatively light and nearly 6,000 head of slaughter cattle have been imported from the U.S. during the first nine months of 1967. The simple average price for Choice steers for the first nine months of 1967 was $28.63 at Toronto and $25.18 at Omaha, a difference of $3.45 per hundredweight. Choice steers at Toronto averaged $30.50 for September, the highest monthly average since 1952. The September average price of Choice steers at Toronto was about $3.87 over that at Omaha but not enough to put prices on a full "import basis". With the heavy marketings of Choice and Good fed cattle, an average of 28,809 head weekly for the first nine months of 1967, it would be expected that price levels in Canada would have been close to or on an "export basis". However, it now seems evident that the increase in visitors to Canada, due to Centennial celebrations and EXPO 67, has been a major factor in bringing about the favorable price situation in relation to U.S. fed cattle price levels.

Fed Cattle Prices in the U.S.A.—Inspected slaughter in the first eight months of 1967 was up 2.8 per cent from the same period in 1966. All of the increase occurred in steer and heifer slaughter—estimated to be up 8 per cent and 5 per cent respectively—while cow slaughter was 14 per cent below a year earlier. By August, total beef slaughter in the United States was down to about year-earlier levels.

The price of Choice steers at Omaha declined from $24.94 in January to a level of $23.89 in April, and then increased to an average of $26.63 in September. For most of 1967, however, fed cattle prices in the U.S. have been disappointing, compared with expectations in the fall of 1966 prior to the revision of the cattle inventory on farms at January 1, 1967. The Census of Agriculture released in February 1967, revised cattle numbers upward by 2.5 million head, and beef cows accounted for 1.8 million head, 75 per cent of the increase.

Outlook

Cattle Numbers in Canada and the U.S.A.—The total number of cattle and calves on farms in Canada at June 1, 1967, reported by the D.B.S., was 12.8 million head. In the U.S., the January 1, 1967, total was estimated at 108.5 million head. Original estimates predicted cattle numbers at January 1, 1967 to be less than 105 million head. In 1967, total cattle numbers in both Canada and the United

PRICES OF CHOICE STEERS AT TORONTO AND OMAHA, BY MONTHS, 1965 TO 1967

	Toronto			Omaha		
	1965	1966	1967	1965	1966	1967
	Can. $ per cwt.			U.S. $ per cwt.		
January	23.56	27.74	28.50	22.98	25.91	24.94
February	23.60	28.72	28.50	22.53	27.16	24.32
March	24.00	28.32	27.85	23.17	28.25	23.92
April	24.00	27.37	27.24	24.38	26.94	23.89
May	24.91	26.85	27.50	26.00	25.94	24.75
June	26.86	26.08	28.33	26.69	25.25	25.45
July	26.84	25.64	29.22	26.05	25.27	26.18
August	26.28	25.56	30.06	26.28	25.76	26.57
September	25.67	27.24	30.50	26.19	25.54	26.63
October	25.50	27.74		25.33	24.70	
November	26.06	27.61		24.93	23.92	
December	26.79	28.12		25.38	23.92	
Year	25.20	27.05	28.63[a]	24.99	25.71	25.18[a]

[a] Nine month simple average.

CATTLE ON FARMS, JUNE 1, CANADA

	1958		1965	1966	1967		Per Cent Change 1967/1965
	Number	Per Cent of Total	Number	Number	Number	Per Cent of Total	
	thousands			thousands			
Beef cows and heifers	2,783.0	25	3,866.4	4,014.3	4,026.6	32	+ 4
Dairy cows and heifers	3,743.9	34	3,533.0	3,289.4	3,267.4	26	− 8
Steers	1,182.8	11	1,723.3	1,751.8	1,722.4	13	—
Calves	3,022.5	28	3,608.7	3,570.1	3,511.5	27	− 3
Bulls	257.8	2	269.7	253.2	253.1	2	− 6
Total	10,990.0	100	13,001.0	12,878.8	12,781.0	100	− 2

CATTLE ON FARMS, JANUARY 1, UNITED STATES

	1958		1965	1966	1967		Per Cent Change 1967/1965
	Number	Per Cent of Total	Number	Number	Number	Per Cent of Total	
	thousands			thousands			
Beef cows and heifers	30,350	33	43,227	43,358	43,754	40	+ 1.2
Dairy cows and heifers	27,530	29	21,130	19,847	18,820	17	−11.0
Steers	9,448	10	12,134	12,749	12,733	12	+ 4.9
Calves	24,374	26	30,601	31,030	31,321	29	+ 2.3
Bulls	1,648	2	1,908	1,878	1,863	2	− 2.4
Total	93,350	100	109,000	108,862	108,491	100	− 0.5

States were below the 1965 high by 2 per cent and 0.5 per cent respectively. The reduction in the dairy herd accounted for the decline in both countries.

In both countries total cattle numbers reached a cyclical peak in 1965, after rising from the cyclical low in 1958. The first reduction in this downswing of cattle numbers on this continent occurred in 1966, and continued into 1967, however, it should be emphasized that the decline has been small. According to the U.S.D.A., total cattle numbers on farms at January 1, 1968, is expected to be below the same date one year earlier. As in the past two years, the decline will likely be limited to the dairy sector with beef cattle females showing another slight increase. In Canada, total cattle numbers on farms at June 1, 1968, are not expected to show much change from June 1, 1967. Cow slaughter in Canada for the third quarter of 1967 showed an increase of 1.5 per cent over the same quarter a year earlier.

Cattle on Feed in Canada—For the first nine months of 1967, gradings of Choice and Good combined showed an increase of 6.5 per cent over the same period in 1966. In contrast, the combined total of Choice and Good for the three week period ended October 21, 1967, showed a decrease of 18 per cent—a weekly average of 26,143, compared with 30,918 a year ago. This indicates that the volume of fed cattle that will be marketed in the last quarter will be somewhat less than one year ago. However, available information indicates that cattle going on feed since July increased over the comparable period in 1966. This could mean an increase in marketings of fed cattle beginning about December 1, over the year earlier period.

In respect to the number of calves and cattle available for feeding, two factors tend to cancel each other out. The number of steers and calves on farms at June 1, 1967, were down 2 per cent and 1.6 per cent respectively, from the same date in 1966, or a total of nearly 90,000 head. On the other hand, exports of feeder cattle to October 14, 1967, are about 126,000 head below the comparable period in 1966 (180,535 in 1966 and 54,188 in 1967).

On the demand side, the Canadian cattle feeder in 1967 has been in a much more favorable position than his U.S. counterpart, with fed cattle prices in Canada well above the "export basis". Furthermore, the situation in respect to feed costs is encouraging to the feedlot operator. As a result, the demand from feedlot operators in Canada for feeder cattle and calves is stronger than a year ago.

Cattle on Feed in the U.S.A.—The July 1, 1967 U.S.D.A. Cattle on Feed Report shows a 2 per cent increase in the number of cattle on feed above the same date a year earlier. The October 1, Cattle on

Feed Report shows only a small increase in feedlot numbers over a year ago. The increase was made up entirely of lighter weight cattle that normally would not move to market until late spring and summer of 1968.

The U.S.D.A. indicates that the supply of feeder cattle available may be adequate to maintain replacements. The 1967 calf crop was down only 1 per cent from 1966. Feed grains (corn and sorghum) are in abundant supply and lower priced, than a year ago. The combination of these factors could result in cattle numbers on feed at January 1, 1968, showing little change from year-earlier levels.

Slaughterings in the U.S.A.—Because of the heavy marketings of steers and heifers, cattle slaughter in the United States in 1967 exceeded year earlier levels until August. The October 1, Cattle on Feed Report, indicates that fall slaughter may be about the same, to slightly smaller than 1966 fall levels. Slaughter levels of fed cattle for the first half of 1968 are expected to be somewhat below the heavy rates of 1967, with a reduction in both steer and heifer marketings. For the year 1968, cattle slaughter in the U.S.A. is expected to be from about the same to slightly below 1967 levels. However, the number slaughtered will largely depend on the number of cattle that go into feedlots during the fall of 1967 and early 1968.

The weekly total marketings of Choice and Good in Canada is expected to be below year-earlier levels until approximately the early part of December 1967. In Canada the supply of fed beef in 1968 may be from about the same to slightly higher than the 1967 level.

Feeder Cattle Prices—The price of Choice steers at Toronto during August and September, 1967, averaged close to $4.00 per hundredweight over the year-earlier period. This has been reflected in higher feeder cattle prices in Canada. At Calgary, Good feeder steers have been above 1966 levels since May. During the last week of October 1967, Good yearling feeder steers were selling in Southern Alberta in the $26.00-$28.00 range for "bulk of sales", compared with an average of $25.00 at Calgary for the same week a year earlier. Good feeder steer calves were bringing from $32.00 to $34.00 for "bulk of sales", with some higher, up to around the $37.00 level. For the same week a year earlier steer calves averaged $29.00 at Calgary. On the other hand, feeder cattle prices in the U.S. at mid-October were at about the same levels as a year earlier—at Sioux City, Choice feeder steers, $28.00; Good feeder steers $26.00; Choice steer calves $31.50; and Good steer calves $27.50, per hundredweight.

Exports of feeder cattle from Canada to the U.S.A. have been sharply below year-ago levels—to October 21, 61,303 head, compared with 194,452 head in 1966. Exports of feeder cattle during the last quarter of 1965 totaled 243,000 head and in 1966, 145,325 head. There is the usual regular export outlet for feeder cattle. However, after experiencing a year in which fed cattle prices in Canada have stayed well above the "export basis", feedlot operators in Canada will likely continue to take the bulk of the available supply of feeders.

Prices—The U.S.D.A. forecasts total beef production during 1968 at about the same as this year's total, but per capita supply will be a little less because of population growth. Population growth, plus high consumer incomes and strong consumer preference for beef, should prevent sharp breaks in cattle prices next year.

Based on predicted marketings in the U.S.A. it is expected that prices of Choice steers at Omaha (about $26.00 early in October) will rise moderately by the end of the year to around the $27.00 level. This should continue for at least the first quarter of 1968. The October 1, Cattle on Feed Report in the U.S. indicates heavy marketings starting late next spring or early summer. This could lead to a decline to $25.00 or $26.00 and possibly a little lower, during May to December. There does not seem to be much possibility of a rising market in the latter half of the year, as was the case this year. In other words, the price pattern in 1968 may be the reverse of 1967—fairly good the first half but rather low the last half. This prediction assumes continued heavy buying of feeder cattle all through the last quarter of 1967.

Prices for Choice steers in Canada have been above the "export basis" since September 1966—in late October 1967, about $4.00. The volume of fed cattle to be marketed during the last quarter may not be sufficient to narrow this "spread" to any appreciable extent. Based on this year's experience, when for the first nine months the domestic market absorbed a weekly average of 28,809 head of Choice and Good combined, at prices averaging about $3.50 per hundredweight over the "export basis", it could be assumed that price levels for fed cattle in 1968 would stay above the export equivalent. However, it is difficult to appraise the full extent of the influence that Expo 67 and Centennial celebrations had on domestic beef prices.

The Longer-Run Outlook—In early 1967, total cattle numbers in the United States were revised upward for the period from January 1, 1961 to January

JANUARY 1, TOTAL CATTLE INVENTORY (U.S.A.)

Year	Number of Head "Original data"	Number of Head "Revised data"	Change in numbers
		thousands	
1961	97,319	97,700	+ 381
1962	99,782	100,369	+ 587
1963	103,512	104,488	+ 976
1964	106,515	107,903	+1,388
1965	106,947	109,000	+2,053
1966	106,309	108,862	+2,553
1967	104,500(forecast)	108,491	+3,991

1, 1966, following receipt of data from the Census of Agriculture in the fall of 1964, and along with other data which had become available after the original estimates were made. The main significance of the revised January 1, 1967 inventory was that cattle numbers were still near the 1965 peak of the present cattle cycle. This indicated very little let up, if any, in fed-cattle beef output over the next few years and this in turn changed the situation in respect to views and estimates of coming supplies and prices. This means that beef supplies will not change greatly over the next few years, and any increase in fed cattle prices will come from population growth and strong consumer demand.

Total cattle numbers are not expected to change much in 1968 and 1969, however, a small upturn in numbers is probable by 1970, followed by a larger beef output.

CALVES FOR SLAUGHTER

Situation

Federally inspected calf slaughter for the first nine months of 1967, totaled 579,273 head (14,853 weekly), compared with 603,198 head (15,466 weekly) for the same nine months of 1966, a decline of 4 per cent. During the first six months of 1967, inspected slaughter remained below year ago levels, but since July has been slightly above.

Domestic disappearance of veal for the first eight months of 1967, is estimated to total 59.6 million pounds, compared with 65.6 million for the same eight months of 1966, a decline of 9.2 per cent. Exports of live veal calves to the United States totaled 77,827 head to the end of September 1967, compared with 88,238 head in 1966 and 57,067 in 1965, for the same period.

Monthly prices of Good and Choice veal calves at Toronto were above 1966 monthly levels until August. For the month of September 1967, prices of Choice and Good veal calves averaged $32.30 at Toronto, compared with $34.42 for the same month in 1966. The simple average price of Good and Choice veal calves at Toronto for the first nine months of 1967 was $36.71 compared with $34.66 for 1966.

Outlook

Inspected calf slaughter totaled 750,319 head in 1964, increased to 894,728 head in 1965, and then declined to 765,596 head in 1966. An increasing proportion of calves are going into feedlots and later slaughtered as beef. In fact, while total cattle numbers in the past 15 years have risen, calf slaughter for veal has not increased. In addition, dairy cow numbers have been decreasing, the main source of veal for slaughter. The number of calves reported by the D.B.S. on farms, June 1, 1967, totaled 3.5 million head, down 3 per cent from June 1, 1966. Calf numbers reached a cyclical peak in 1965 but since then have declined. Veal prices in 1968 are expected to remain at the present high level.

SHEEP AND LAMBS

Situation

Marketings of sheep and lambs on public stockyards and shipped direct to packing plants to the end of September, 1967, totaled 228,444 head, compared with 215,830 head for the same period last year, an increase of 5.8 per cent. Live imports from the United States to the end of September, 1967, totaled 22,514 head, compared with 18,455 head in 1966 and 17,666 head in 1965, for the same period.

Carcasses graded in federally inspected and approved packing plants to the end of September, 1967, totaled 218,159 head, compared with 214,674 head for the same period in 1966, an increase of 1.6 per cent. Inspected slaughter of lamb and mutton was down 6.6 per cent in Eastern Canada but up 5.3 per cent in western Canada, with Alberta recording the largest increase.

Domestic disappearance of lamb and mutton to the end of August, 1967, increased to 38.2 million pounds from 37.5 million pounds during this period in 1966, an increase of 2 per cent. During the January to August period, imports are estimated at 28.8

million pounds, down 17 per cent from the high level of imports for the first eight months of 1966.

Monthly prices of Good lambs at Toronto in 1967, were below year ago levels until May. Since then prices of Good lamb have exceeded year ago levels. The national average price of Good lambs, from April 1 to September 23, 1967, was $26.84 compared with the support level of $18.80 per hundredweight, and last year's average of $25.12 for the same period.

Outlook

The number of sheep and lambs on farms in Canada at June 1, 1967 was 962,500 head, down 4 per cent from June 1, 1966. Numbers in both Eastern and Western Canada were down 3 per cent and 5 per cent respectively. Slaughter for the year 1967 may be equal to or slightly above 1966 levels. As a result of greater interest in feedlot finishing of lambs, slaughter in 1968 may stabilize. Prices are expected to remain firm.

WOOL

Production of shorn wool in 1967 is estimated at 3.8 million pounds greasy basis, a drop of 10 per cent from the 4.2 million pounds produced in 1966. Production decreased in all provinces except Manitoba, where it was unchanged, and New Brunswick, where it showed a slight increase.

The Price Support Program for Wool is a deficiency payment program. The Agricultural Stabilization Board pays producers the difference between the support price of 60¢ per pound and the average price of representative wool grades, f.o.b. Toronto. The stabilization year for wool is April 1 to March 31. In the 1965-66 marketing year, the wool deficiency payment was 16.3¢ per pound of wool and in 1966-67 the deficiency payment was 18.3¢ per pound.

In the United States, production of shorn wool is estimated by the U.S.D.A. at 189 million pounds, greasy basis, for 1967. This is 3 per cent below production in 1966.

In Canada the decline in wool production as reported by the D.B.S. is almost entirely due to a 10 per cent drop in the number of sheep shorn, from 545,000 in the spring of 1966 to 492,000 in the spring of 1967. The decrease in sheep numbers occurred in all provinces except New Brunswick, where a small increase took place. The decrease was 11 per cent in Eastern Canada and 9 per cent in Western Canada. Sheep numbers on farms in Canada in 1968, are expected to decline, with the 1968 wool clip also below the previous year's level.

TABLE 1—MEATS: SUPPLIES AND DISTRIBUTION FROM INSPECTED SLAUGHTERINGS OR CARCASS GRADINGS, CANADA, 1966-1967

	Unit	Pork	Beef	Veal	Mutton and Lambs	Total Meats
		thousand pounds chilled carcass				
1966						
Stocks at January 1/66		24,477	51,832	4,945	6,743	87,997
Production		892,216	1,431,359	95,264	14,384	2,433,223
Imports		37,402	44,584	455	55,969	138,410
Total supply		954,095	1,527,775	100,664	77,096	2,659,630
Exports		53,298	62,714	[a]	622	116,634
Stocks at December 31/66		30,678	46,915	3,594	12,282	93,469
Domestic disappearance	000 lbs.	870,119	1,418,146	97,070	64,192	2,449,527
	000 head	6,690	2,680	780	1,462	
Weekly average	000 head	128.6	51.5	15.0	28.1	
1967[b]						
Stocks at January 1/67		30,678	46,915	3,594	12,282	93,469
Production		1,054,170	1,439,130	93,750	14,355	2,601,405
Imports		29,500	53,785	835	47,490	131,610
Total supply		1,114,348	1,539,830	98,179	74,127	2,826,484
Exports		61,450	33,800	[a]	450	95,700
Stocks at December 31/67		44,975	49,250	2,500	10,790	107,515
Domestic disappearance	000 lbs.	1,007,923	1,456,780	95,679	62,887	2,623,269
	000 head	7,753	2,703	765	1,445	
Weekly average	000 head	149.1	52.0	14.7	27.7	

[a] Small quantity only and included in beef.

[b] Estimated.

TABLE 2—HOGS: NUMBER ON FARMS AT JUNE 1, CANADA, 1966-1967

	Hogs on Farms, June 1					
	1966		1967		Change in Numbers	Percentage Change
	Thousands	Per Cent of Total	Thousands	Per Cent of Total		
					thousands	
Maritimes	174	3.2	201	3.3	+ 27	+15.5
Quebec	1,174	21.7	1,330	22.1	+156	+13.3
Ontario	1,936	35.9	2,040	34.0	+104	+ 5.4
Manitoba	499	9.3	578	9.6	+ 79	+15.8
Saskatchewan	488	9.0	565	9.4	+ 77	+15.8
Alberta	1,093	20.2	1,254	20.9	+161	+14.7
British Columbia	37	0.7	44	0.7	+ 7	+18.9
Eastern Canada	3,284	60.8	3,571	59.4	+287	+ 8.7
Western Canada	2,116	39.2	2,441	40.6	+324	+15.3
Total Canada	5,401	100.0	6,012	100.0	+611	+11.3

TABLE 3—PORK PRODUCTS: SUPPLIES AND DISTRIBUTION FROM CARCASS GRADINGS, CANADA, 1955-1967 (COLD TRIMMED CARCASS BASIS)

	Unit	Average 1955–59	Average 1960–64	1965	1966	1967 (Forecast)
Stocks at January 1	000 lbs.	33,168	29,528	29,320	24,477	30,678
Carcass gradings	000 head	6,461	6,722	7,077	6,860	8,109
Average carcass weight	lbs.	130.5	129.4	128.4	130.1	130.0
Total carcass weight	000 lbs.	842,927	869,748	908,561	892,216	1,054,170
Imports	000 lbs.	937	44,077	37,515	37,402	29,500
Total supply	000 lbs.	877,032	943,353	975,396	954,095	1,114,348
Exports	000 lbs.	66,129	60,356	64,741	53,298	61,450
Surplus disposals[a]	000 lbs.	24,875	1,870	—	—	—
Stocks at December 31	000 lbs.	37,991	25,276	24,477	30,678	44,975
Domestic disappearance	000 lbs.	748,037	855,851	886,178	870,119	1,007,923
	000 head	5,733	6,614	6,903	6,690	7,753
Weekly average	000 head	110.2	127.2	132.7	128.6	149.1

[a] Under federal government price support operations.

TABLE 4—CATTLE AND CALVES: NUMBER ON FARMS AT JUNE 1, CANADA, 1966-1967

	Cattle on Farms, June 1					
	1966		1967		Change in Numbers	Percentage Change
	Thousands	Per Cent of Total	Thousands	Per Cent of Total		
					thousands	
Maritimes	409	3.2	399	3.1	− 10	−2.4
Quebec	1,798	14.0	1,796	14.0	− 2	−0.1
Ontario	3,137	24.3	3,165	24.9	+ 28	+0.9
Manitoba	1,151	8.9	1,112	8.7	− 39	−3.4
Saskatchewan	2,398	18.6	2,368	18.5	− 30	−1.3
Alberta	3,440	26.7	3,405	26.7	− 35	−1.0
British Columbia	546	4.3	536	4.2	− 10	−1.8
Eastern Canada	5,344	41.5	5,360	41.9	+ 16	+0.3
Western Canada	7,535	58.5	7,421	58.1	−114	−1.5
Total Canada	12,879	100.0	12,781	100.0	− 98	−0.8

TABLE 5—BEEF COWS AND HEIFERS: NUMBER ON FARMS AT JUNE 1, CANADA, 1966-1967

	On Farms, June 1				Change in Numbers	Percentage Change
	1966		1967			
	Thousands	Per Cent of Total	Thousands	Per Cent of Total		
					thousands	
Maritimes	67.6	1.7	70.6	1.8	+ 3.0	+4.4
Quebec	108.8	2.7	110.0	2.7	+ 1.2	+1.1
Ontario	584.6	14.6	589.0	14.6	+ 4.4	+0.8
Manitoba	447.5	11.1	438.0	10.9	− 9.5	−2.1
Saskatchewan	1,102.2	27.5	1,100.0	27.3	− 2.2	−0.2
Alberta	1,480.6	36.9	1,504.0	37.4	+23.4	+1.6
British Columbia	223.0	5.5	215.0	5.3	− 8.0	−3.6
Eastern Canada	761.0	19.0	769.6	19.1	+ 8.6	+1.1
Western Canada	3,253.3	81.0	3,257.0	80.9	+ 3.7	+0.1
Total Canada	4,014.3	100.0	4,026.6	100.0	+12.3	+0.3

TABLE 6—BEEF: SUPPLIES AND DISTRIBUTION FROM INSPECTED SLAUGHTERINGS, CANADA, 1955-1967

	Unit	Average 1955–59	Average 1960–64	1965	1966	1967 (Forecast)
Stocks at January 1	000 lbs.	32,258	36,023	49,221	51,832	46,915
Inspected slaughterings	000 head	1,839	2,112	2,734	2,705	2,670
Average carcass weight (chilled)	lbs.	490.6	518.1	514.8	529.1	539.0
Total carcass weight (chilled)	000 lbs.	902,240	1,094,192	1,407,683	1,431,359	1,439,130
Imports	000 lbs.	52,731	54,614	38,533	44,584	53,785
Total supply	000 lbs.	987,229	1,184,829	1,495,437	1,527,775	1,539,830
Exports	000 lbs.	30,321	25,774	83,412	62,714	33,800
Stocks at December 31	000 lbs.	32,828	39,736	51,832	46,915	49,250
Domestic disappearance	000 lbs.	924,080	1,119,319	1,360,193	1,418,146	1,456,780
	000 head	1,884	2,160	2,642	2,680	2,703
Weekly average	000 head	36.2	41.5	50.8	51.5	52.0

TABLE 7—VEAL: SUPPLIES AND DISTRIBUTION FROM INSPECTED SLAUGHTERINGS, CANADA, 1955-1967

	Unit	Average 1955–59	Average 1960–64	1965	1966	1967 (Forecast)
Stocks at January 1	000 lbs.	5,118	4,705	6,400	4,945	3,594
Inspected slaughterings	000 head	814	707	895	766	750
Average carcass weight[a]	lbs.	106.3	120.0	125.0	124.4	125.0
Total carcass weight	000 lbs.	86,476	84,818	111,871	95,264	93,750
Imports[b]	000 lbs.	—	—	—	455	835
Total supply	000 lbs.	91,594	89,523	118,271	100,664	98,179
Exports[b]	000 lbs.	—	—	—	—	—
Stocks at December 31	000 lbs.	5,152	5,123	4,945	3,594	2,500
Domestic disappearance	000 lbs.	86,442	84,400	113,326	97,070	95,679
	000 head	813	703	906	780	765

[a] Chilled carcass basis, hide off.

[b] Small quantities only and included with beef.

TABLE 8—SHEEP AND LAMBS: NUMBER ON FARMS AT JUNE 1, CANADA, 1966-1967

	Sheep and Lambs on Farms, June 1					
	1966		1967		Change in Numbers	Percentage Change
	Thousands	Per Cent of Total	Thousands	Per Cent of Total		
					thousands	
Prince Edward Island	15	1.5	14	1.5	− 1	−6.7
Nova Scotia	39	3.9	38	4.0	− 1	−2.6
New Brunswick	28	2.8	27	2.8	− 1	−3.6
Quebec	112	11.1	106	11.0	− 6	−5.4
Ontario	265	26.3	259	26.9	− 6	−2.3
Manitoba	51	5.1	46	4.8	− 5	−9.8
Saskatchewan	128	12.7	120	12.5	− 8	−6.2
Alberta	302	30.0	287	29.8	−15	−5.0
British Columbia	66	6.6	65	6.7	− 1	−1.5
Eastern Canada	459	45.6	444	46.2	−15	−3.3
Western Canada	547	54.4	518	53.8	−29	−5.3
Total Canada	1,006	100.0	962	100.0	−44	−4.4

TABLE 9—MUTTON AND LAMBS: SUPPLIES AND DISTRIBUTION FROM INSPECTED SLAUGHTERINGS, CANADA 1955-1967

	Unit	Average 1955-59	Average 1960-64	1965	1966	1967 (Forecast)
Stocks at January 1	000 lbs.	5,457	8,215	9,290	6,743	12,282
Inspected slaughterings	000 head	578	559	410	328	330
Average carcass weight	lbs.	43.0	43.0	43.2	43.9	43.5
Total carcass weight	000 lbs.	24,899	24,020	17,715	14,384	14,355
Imports	000 lbs.	14,618	36,120	30,990	55,969	47,490
Total supply	000 lbs.	44,974	68,355	57,995	77,096	74,127
Exports	000 lbs.	583	455	370	622	450
Stocks at December 31	000 lbs.	5,993	8,829	6,743	12,282	10,790
Domestic disappearance	000 lbs.	38,398	59,071	50,882	64,192	62,887
	000 head	892	1,374	1,177	1,462	1,445

TABLE 10—SHORN WOOL: PRODUCTION IN CANADA BY PROVINCE, 1955-1967

	Average 1955-59	Average 1960-64	1965	1966	1967	1967 Per Cent of Total
			thousand pounds			
Prince Edward Island	109	78	53	52	47	1.3
Nova Scotia	267	192	143	127	117	3.1
New Brunswick	215	163	106	91	92	2.4
Quebec	1,049	632	490	435	388	10.3
Ontario	1,423	1,211	1,140	1,073	922	24.6
Manitoba	247	247	188	163	163	4.3
Saskatchewan	663	723	636	595	506	13.5
Alberta	1,817	2,103	1,611	1,394	1,292	34.4
British Columbia	358	385	286	248	231	6.1
Eastern Canada	3,063	2,276	1,932	1,778	1,566	41.7
Western Canada	3,085	3,458	2,721	2,400	2,192	58.3
Total Canada	6,148	5,734	4,653	4,178	3,758	100.0

DAIRY PRODUCTS

Situation

Milk cow numbers at June 1, 1967, were estimated at 2,668,000 head—almost unchanged from a year earlier. Ontario registered an increase of about 2 per cent over 1966, Quebec and British Columbia each had gains of 1 per cent, while other provinces declined. Cow numbers were down 5 per cent in the Maritimes and 4 per cent in the Prairie Provinces, with New Brunswick and Saskatchewan showing decreases of 7 per cent and 6 per cent, respectively. Yearling heifers, one to two years of age, being raised mainly for milk purposes, totaled 599,400 head at June 1, 1967—down 2.6 per cent from the 615,500 head reported in 1966.

The herd expansion by farmers, many of whom have adopted new technologies, has not offset the reduction in cow numbers caused by farmers who have shifted to other agricultural alternatives or phased out of agriculture. The number of Canadian farms reporting milk cows in 1966 totaled 221,850 —less than half the number reporting in 1951. But, the average dairy herd in Canada in 1966 consisted of 12 cows—double the number in 1951. Ontario and Quebec had average herds of 18 and 16 cows, respectively, compared with five for Saskatchewan. However, the effect of the decrease in milk cow numbers has been offset by a gradual increase in production per cow. After reaching a level of about 4,000 pounds in 1937, annual output per cow reached 5,000 pounds in 1951, and 6,000 pounds in 1960. In 1967, production per cow is forecast at around 6,800 pounds. The increase in the 1960's has been ascribed to more selective culling, and better feeding and management practices.

Total milk production in 1967 is forecast at 18.15 billion pounds. Production, which fluctuated very little during the six-year period 1961-66, was maintained in 1967 at almost the same level. The concentration of milk production in central Canada continued. In 1967, farms in Quebec and Ontario had 72 per cent of the national dairy herd and produced a similar proportion of the total milk output.

About 62 per cent of the total milk produced in 1967 is expected to be utilized in the manufacture of dairy-factory products, 29 per cent in sales of fluid milk and cream, and about 9 per cent used on farms. The utilization pattern has not changed appreciably over the past few years. The 62 per cent of total production used by factories in 1967 is broken down as follows: 41.5 per cent of total milk for creamery butter (1966: 42.6 per cent); 9.8 per cent for cheddar cheese (1966: 10.0 per cent); and 10.8 per cent for other products (1966: 9.9 per cent).

Marketings of milk for factory use, including fluid sales, declined by about 200 million pounds to 16.54 billion pounds from 16.74 billion pounds in 1966, due largely to a decrease in output of creamery butter. Total factory utilization represented 91.1 per cent of the total milk output—unchanged from a year earlier.

Fluid sales of milk and cream, forecast at 5.28 billion pounds in milk equivalent, gained only slightly in 1967. Total fluid milk usage—fluid sales and farm-home consumption—amounted to 6.12 billion pounds. Per capita consumption of fluid milk and cream has fallen gradually from 405 pounds in 1956 to 313 pounds in 1966. There has been a sharp increase in the sales of partly skimmed milk during the 1960's. Reported commercial sales of 2 per cent milk increased from 91 million quarts in 1960 to the 373 million quarts forecast for 1967 (1966: 316 million quarts). The popularity of 2 per cent milk has affected volume sales of standard and special milk.

Retention of whole milk on farms continued its downward trend, with farm use of milk (farm-home consumption, farm butter and milk fed to livestock) declining again in 1967.

The production of creamery butter declined in 1967 for the fifth consecutive year. Output in 1967 is forecast at around 322 million pounds compared with 334 million pounds in 1966. The decrease in butter production reflected a shift in product use. All provinces shared in the general decline. Consumption of creamery butter is expected to be around 327 million pounds—down 21 million pounds from 1966 and 30 million pounds less than the recent peak consumption in 1964. Per capita consumption is forecast at 16 pounds—down 1.42 pounds from the 17.42 pounds consumed in 1966.

Production of cheddar cheese is forecast at 161.5 million pounds—down almost 6 million pounds from 1966. Production of other cheeses—all varieties made from whole milk except cheddar—is expected to total 28.5 million pounds, compared with 26.6 million pounds in 1966.

The principal feature of the cheese situation during 1967 was the strong domestic demand. The combined domestic consumption of all natural cheeses, excluding cottage, is expected to reach a record level of 176.5 million pounds in 1967—17.3 million pounds above a year ago. Similarly, the total consumption of cheddar cheese, including processed cheddar, is expected to reach a record high of 128.5

million pounds. In recent years, the use of cheddar in the production of processed cheese has been increasing steadily. In 1967, production of processed cheese is forecast at around 62 million pounds in cheddar cheese equivalent, compared with 59 million pounds in 1966. However, exports of cheddar cheese are forecast at about 31 million pounds, a decrease of 4 million pounds from 1966. Consumption of cottage cheese has also been on the upswing. Production in 1967 is forecast at 33 million pounds (1966: 32 million).

Ice cream consumption increased as a result of the Centennial celebrations. Total disappearance is expected to climb by 6 per cent, requiring a record 28.2 million gallons of ice cream mix (1966: 26.6 million gallons).

Concentrated milk products will utilize slightly less milk in 1967 than during the previous year. Production of evaporated whole milk may not exceed 303 million pounds (1966: 310 million) while consumption is expected to be 293 million pounds—down 7 million pounds from a year earlier. Production of condensed milk is expected to be up slightly at 24 million pounds. Canadian production of dry whole milk, which is tailored largely to export demand—a demand which amounted to 24 million pounds annually during the five-year period, 1960-64, is expected to be about 9 million pounds in 1967 (1966: 7.7 million).

The trend towards smaller quantities of skim milk being used on farms continued in 1967. Many producers who formerly separated milk and sold cream for the manufacture of butter have gone out of production. Others have enlarged their herds and switched to selling milk for industrial use. This conversion partly explains why the production of dry skim milk is expected to reach a record high of 310 million pounds in 1967 (1966: 264 million) while at the same time production of creamery butter decreased. In 1967 a more important reason was that milk was diverted from the production of casein to dry skim milk. Casein production is expected to decline to 15 million pounds in 1967, compared with 24 million pounds in 1966.

On the basis of a forecast of production of dry skim milk at 310 million pounds and domestic consumption at 155 to 165 million pounds (for the two years 1965-66, consumption averaged 151 million pounds annually), supplies available for export will be 145 to 155 million pounds. Export shipments of dry skim milk are likely to reach 100 million pounds in 1967 (1966: 67 million), with the balance being added to stocks. Exports in 1967 have been assisted by fairly heavy food aid contributions particularly for famine relief to India (21 million pounds), and also for other food aid programs (5 million pounds up to September 30).

A product which is becoming increasingly important is whey powder—a by-product in the manufacture of cheese and casein. Although production of whey powder was down in 1967, due to a decline in cheese and casein production, output is still expected to be 37 million pounds (1966: 40 million). This represents about 30 per cent of the whey produced in Canada. Production of whey powder is expected to become of greater importance as water resources board regulations are more rigidly enforced.

The Canadian Dairy Commission—On April 1, 1967, the Canadian Dairy Commission assumed the dairy support payment functions previously performed by the Agricultural Stabilization Board. The objects of the Commission are to provide efficient producers of milk and cream with the opportunity of obtaining a fair return for their labor and investment, and to provide consumers with a continuous and adequate supply of high quality dairy products. The Commission has the power "to purchase any dairy product and package, process, store, ship, ensure, import, export, or sell or otherwise dispose of any dairy product purchased by it". The Commission may also make payments to producers of milk and cream for the purpose of stabilizing the price of these products.

The Dairy Support Program, 1967-68—In the implementation of its functions, in March 1967, the Commission announced the support program for the year April 1, 1967 to March 31, 1968. It included features designed to improve producer returns, to rationalize milk production and to stabilize the prices of dairy products to consumers.

The objective was to provide manufacturing milk producers with returns of $4.75 f.o.b. the factory (1966-67: $4.10) per 100 pounds of milk testing 3.5 per cent butterfat. The total cost of the subsidy program has been estimated in excess of $120 million for the current support year (1966-67: $90 million).

The program consists of the following measures: a subsidy payment of $1.21 per 100 pounds of manufacturing milk, basis 3.5 per cent butterfat, and an equivalent payment on cream; offer-to-purchase programs for creamery butter, cheddar cheese and spray process dry skim milk; and export assistance. Subsidy payments during 1967-68 are being made to producers of manufacturing milk only. In 1966-67, a portion of surplus fluid milk was eligible for subsidy.

The Commission established the offer-to-purchase program for creamery butter at an increased price

of 63¢ per pound (1966-67: 59¢ per pound) and for cheddar cheese at 38¢ per pound (1966-67: 38¢ per pound). Spray-process dry skim milk was also included in the offer-to-purchase program at 20¢ per pound (1966-67: up to 18¢) with a limited quantity meeting more rigid quality specifications at 21¢.

From the authorized gross subsidy payment of $1.21 per 100 pounds of milk, a deduction of 11¢ is made for export equalization, giving a net payment of 31.42¢ per pound of butterfat (1966-67: 21.43¢ per pound). Any unexpended portion of the fund acquired by this holdback will be returned to producers on a pro-rata basis. In the 1966-67 dairy year there was a holdback of 10¢ per 100 pounds and after the end of the year a rebate amounting to 2.7¢ per 100 pounds.

A further change in support policy in 1967-68 was the establishment of eligibility quotas for subsidy payments. The quota allotted to each producer was equal to the total quantity of milk and cream delivered during the previous dairy year. Producers who delivered less than 50,000 pounds of milk, or the equivalent in cream, had an open quota up to 50,000 pounds of milk, or cream equivalent. Adjustments in individual quotas, above the 50,000 pounds open quota, were made after examination and approval by the Commission. For the dairy support year, 1968-69, the Comission is proposing not to issue quotas to producers who delivered less than a minimum stated quantity of milk or cream equivalent in 1967-68.

Outlook

The forecast, made last year, indicated an upswing in dairy cattle numbers to begin in late 1967 or early 1968. The rise has already started in Ontario, Quebec and British Columbia. This confirms the opinion that there is a continuing concentration of the industry in these areas as the upswing has not occurred elsewhere.

Although there is an increasing rate of consolidation of dairy production and relatively high returns for milk and cream, it appears likely that total production will show little change in 1968. Since changes in milk production tend to lag behind changes in technology and changes in price, output is forecast at only slightly higher than the 18.15 billion pounds forecast for 1967, assuming no change in dairy support policy.

Total fluid milk consumption, on a milk equivalent basis, is not likely to show any significant change from 1967. Volume sales of partly skimmed milk (2 per cent butterfat) are expected to continue to increase at approximately the same rate as in 1967.

Production of cheddar cheese in 1968 is expected to be about the same as in 1967. Exports of cheddar as well are not likely to be significantly different. Total consumption of natural cheeses is expected to continue its upward trend and could reach 186 million pounds. Approximately 50 million pounds of fancy cheese—Canadian and imported—is included in this total.

The increase in ice cream consumption is expected to continue, if weather conditions are favorable, but not at the same rate as in 1967. The increase may amount to 3 per cent.

Production of evaporated and condensed milk is expected to show a further reduction, reflecting the declining trend in domestic consumption.

Production of dry skim milk is expected to continue to increase and may exceed 325 million pounds, because of the higher monetary value of solids-not-fat in skim milk powder, compared with casein, and the continuing conversion of cream shippers to whole milk shippers. Supplies of dry skim milk above domestic requirements and normal commercial exports are expected to range from 60 to 80 million pounds. The export demand for dry whole milk has leveled off and domestic use is limited to around 2 million pounds annually; therefore, production of this product is unlikely to show much change in 1968.

The amount of creamery butter produced depends on the volume of milk remaining after the demand of the fluid market and other manufactured products has been met. As the outlook is for little change in total milk marketing and the proportion of milk diverted to fluid sales and other products is expected to remain unchanged, there should be little change in butter production in 1968. If present consumption trends continue, a further reduction in butter consumption will occur.

TABLE 1—THE CANADIAN DAIRY HERD, TOTAL, AND BY PROVINCE, 1955-67, AS AT JUNE 1

	Average 1955–59	Average 1960–64[a]	1965[a]	1966	1967
			thousand head		
Cows and Heifers, 2 years and over[b]					
Prince Edward Island	42.7	38.4	39.0	37.3	36.5
Nova Scotia	76.1	62.1	57.0	52.4	50.0
New Brunswick	81.2	63.6	56.0	52.2	48.5
Maritimes	200.0	164.1	152.0	141.9	135.0
Quebec	1,036.7	1,031.1	1,086.0	995.3	1,004.0
Ontario	999.2	968.3	943.0	908.7	925.0
Manitoba	214.1	189.2	176.0	150.1	142.0
Saskatchewan	261.8	222.2	178.0	153.8	145.0
Alberta	277.8	279.6	262.0	243.0	235.0
Prairies	753.7	691.0	616.0	546.9	522.0
British Columbia	88.6	91.0	88.0	81.1	82.0
Canada	3,078.2	2,945.5	2,885.0	2,673.9	2,668.0
Yearling Heifers, 1 to 2 years[b]					
Prince Edward Island	9.5	8.7	7.8	8.9	9.3
Nova Scotia	17.7	14.9	12.3	12.6	11.6
New Brunswick	17.9	14.9	11.9	11.7	11.5
Maritimes	45.1	38.5	32.0	33.2	32.4
Quebec	221.9	214.3	187.0	198.2	186.0
Ontario	267.3	284.9	275.0	245.5	254.0
Manitoba	51.6	47.3	42.0	35.6	32.0
Saskatchewan	56.7	47.5	35.0	30.2	27.0
Alberta	63.5	66.1	55.0	51.1	48.0
Prairies	171.8	160.9	132.0	116.9	107.0
British Columbia	21.8	25.3	22.0	21.7	20.0
Canada	727.9	723.9	648.0	615.5	599.4

[a]Years 1962 to 1965 subject to intercensal revisions.
[b]Being raised mainly for milk purposes.

TABLE 2—THE NUMBER OF FARMS REPORTING MILK COWS, TWO YEARS AND OVER, AND AVERAGE HERD SIZE, CANADA, TOTAL AND BY PROVINCES, 1951-66

	Unit	1951	1956	1961	1966
Canada[a]					
Milk cows	000's	2,907.8	3,163.7	2,989.7	2,676.8
Farms	No.	455,068	398,604	308,980	221,850
Average herd size	No.	6	8	10	12
Prince Edward Island					
Milk cows	000's	38.9	43.8	39.6	37.3
Farms	No.	8,838	7,931	6,137	4,675
Average herd size	No.	4	6	6	8
Nova Scotia					
Milk cows	000's	79.0	82.8	64.1	52.4
Farms	No.	19,251	16,623	9,611	6,104
Average herd size	No.	4	5	7	8
New Brunswick					
Milk cows	000's	82.4	85.6	67.3	52.2
Farms	No.	19,751	16,107	9,211	5,629
Average herd size	No.	4	5	7	9
Quebec					
Milk cows	000's	895.5	1,054.3	1,006.7	995.3
Farms	No.	109,443	101,105	80,509	62,020
Average herd size	No.	8	10	12	16

TABLE 2—THE NUMBER OF FARMS REPORTING MILK COWS, TWO YEARS AND OVER, AND AVERAGE HERD SIZE, CANADA, TOTAL AND BY PROVINCES, 1951-66 (Concluded)

	Unit	1951	1956	1961	1966
Ontario					
Milk cows	000's	922.1	1,025.9	992.4	908.7
Farms	No.	106,687	94,948	72,849	51,865
Average herd size	No.	9	11	14	18
Manitoba					
Milk cows	000's	218.5	223.0	195.9	150.1
Farms	No.	39,662	34,891	27,313	19,158
Average herd size	No.	6	6	7	8
Saskatchewan					
Milk cows	000's	306.9	272.2	214.1	153.8
Farms	No.	75,297	61,205	49,222	32,144
Average herd size	No.	4	4	5	5
Alberta					
Milk cows	000's	277.6	282.2	287.9	243.0
Farms	No.	59,617	52,396	44,748	33,234
Average herd size	No.	5	5	6	7
British Columbia					
Milk cows	000's	82.9	90.2	91.9	81.1
Farms	No.	14,856	12,259	8,720	6,452
Average herd size	No.	6	7	10	12

Source: Census of Agriculture.
[a]Including data for Yukon, Northwest Territories and Newfoundland.

TABLE 3—MILK PRODUCTION AND UTILIZATION IN CANADA, 1955-67

	Average 1955–59	Average 1960–64	1965	1966 (Preliminary)	1967 (Forecast)
	million pounds of milk				
Consumed on farms	1,070	954	879	850	848
Farm made butter	302	174	88	77	74
Fed to livestock	676	835	775	709	690
Total farm use	2,048	1,963	1,742	1,636	1,612
Fluid sales	5,074	5,016	5,206	5,255	5,276
Creamery butter	7,426	8,133	7,895	7,819	7,535
Cheddar cheese	1,018	1,387	1,739	1,840	1,777
Other cheese	103	154	227	288	314
Cottage cheese[a]	13	24	30	31	32
Concentrated milk	941	1,030	984	870	855
Ice cream	603	574[b]	537[b]	636[b]	751[b]
Total factory use	15,178	16,318	16,618	16,739	16,540
Total milk production	17,226	18,281	18,360	18,375	18,152

[a]Milk equivalent of butterfat in creamed cottage cheese.
[b]Excludes the milk equivalent of butter used in ice cream mix, which was (in million pounds).

Average 1960–64	1965	1966	1967
173	336	270	208

TABLE 4—MILK: PERCENTAGE UTILIZATION IN CANADA, 1955-67

	Average 1955–59	Average 1960–64	1965	1966	1967 (Forecast)
	per cent of total milk production				
Consumed on farms	6.2	5.2	4.8	4.6	4.7
Farm made butter	1.7	1.0	0.5	0.4	0.4
Fed to livestock	3.9	4.6	4.2	3.9	3.8
Total farm use	11.8	10.8	9.5	8.9	8.9
Fluid sales	29.5	27.5	28.3	28.6	29.0
Creamery butter	43.1	44.5	43.0	42.6	41.5
Cheddar cheese	5.9	7.6	9.5	10.0	9.8
Other cheese	0.6	0.8	1.2	1.5	1.8
Cottage cheese[a]	0.1	0.1	0.2	0.2	0.2[a]
Concentrated milk	5.5	5.6	5.4	4.7	4.7
Ice cream	3.5	3.1[b]	2.9[b]	3.5[b]	4.1[b]
Total factory use	88.2	89.2	90.5	91.1	91.1
Total milk production	100.0	100.0	100.0	100.0	100.0

[a,b]See footnotes to Table 2.

TABLE 5—COMMERCIAL SALES[a] OF FLUID MILK IN CANADA, BY VOLUME, 1964-67

	Commercial Fluid Milk Sales			
	Total[b]	Standard Milk	Special Milk	Two per cent Milk
	thousand quarts			
1964	1,481,006	1,254,815	7,319	218,872
1965	1,520,959	1,253,445	6,220	261,294
1966	1,547,034	1,226,660	4,657	315,717
1967[c]	1,566,600	1,190,000	3,600	373,000

[a]Covers sales by known operating plants and by producer-distributors in reporting marketing areas.
[b]Excluding skim milk.
[c]August to December, forecast.

TABLE 6—CREAMERY BUTTER PRODUCTION IN CANADA, BY PROVINCE, 1955-67

	Average 1955–59	Average 1960–64	1965	1966 (Preliminary)	1967 (Forecast)
	thousand pounds				
Canada	317,366	347,583	337,381	334,130	322,000
Prince Edward Island	5,811	5,617	5,884	5,189	4,500
Nova Scotia	5,173	3,484	3,000	2,880	2,500
New Brunswick	8,282	6,945	5,719	4,848	4,000
Quebec	125,969	135,896	131,611	141,199	139,000
Ontario	83,619	98,969	107,922	103,416	100,000
Manitoba	24,843	24,825	21,806	18,870	18,000
Saskatchewan	27,319	27,160	21,700	19,031	16,000
Alberta	32,474	39,095	36,562	34,543	34,000
British Columbia	3,876	5,592	3,177	4,154	4,000

TABLE 7—BUTTER: SUPPLIES AND DISTRIBUTION, CANADA, 1955-67

	Average 1955–59	Average 1960–64	1965	1966 (Preliminary)	1967 (Forecast)
	thousand pounds				
Creamery butter					
Stocks at January 1	88,687	178,688	100,021	75,822	60,967
Production	317,366	347,583	337,381	334,130	322,000
Imports	4	1	—	—	2,240[a]
Total supply	406,057	526,272	437,402	409,952	385,207
Exports	4,006	27,210	5,379[a]	681[a]	—
Stocks at December 31	91,627	177,539	75,822	60,967	58,207
Domestic disappearance	310,424	321,523	356,201	348,304	327,000
Domestic disappearance of butter					
Creamery butter	310,424	321,523	356,201	348,304	327,000
Dairy butter	12,904	7,430	3,741	3,311	3,000
Whey butter	2,185	3,936	4,573	4,979	5,000
Total butter	325,513	332,889	364,515	356,594	335,000

[a]Excludes butter imported under special permit for conversion to butter oil for re-export.

TABLE 8—CHEDDAR CHEESE: PRODUCTION IN CANADA, BY PROVINCE, 1955-67

	Average 1955–59	Average 1960–64	1965	1966 (Preliminary)	1967 (Forecast)
	thousand pounds				
Canada	92,548	126,115	158,088	167,256	161,500
Prince Edward Island	875	1,103	1,714	1,973	2,500
Nova Scotia	—	—	—	565	1,400
New Brunswick	829	600	610	615	600
Quebec	24,564	49,488	61,343	69,627	65,000
Ontario	62,795	71,253	89,994	89,293	85,500
Manitoba	891	686	1,145	1,441	2,000
Saskatchewan	82	64	—	—	—
Alberta	1,824	1,888	2,188	2,302	3,000
British Columbia	688	1,033	1,094	1,440	1,500

TABLE 9—NATURAL CHEESE: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1955-67

	Average 1955–59	Average 1960–64	1965	1966 (Preliminary)	1967 (Forecast)
	thousand pounds				
Cheddar cheese					
Stocks at January 1	43,824	56,294	58,466	65,525	79,864
Production	92,548	126,115	158,088	167,256	161,500
Imports	1,130	5	—	—	—
Total supply	137,502	182,414	216,554	232,781	241,364
Exports	13,671	24,032	31,643	35,204	31,000
Stocks at December 31	45,846	57,481	65,525	79,864	81,864
Domestic disappearance	77,985	100,901	119,386	117,713	128,500
Domestic disappearance of factory cheese					
Cheddar cheese	77,985	100,901	119,386	117,713	128,500
Other Canadian cheese	9,327	14,216	20,018	25,779	28,500
Other imported cheese	9,789	14,724	17,212	15,719	19,500
Total cheese	97,101	129,841	156,616	159,211	176,500
	cents per pound for Canada First Grade, Quebec white cheddar				
Current receipts,[a] Montreal	32.0	33.1	39.1	41.9	44.2

[a]Price paid by wholesalers to manufacturers of cheddar cheese, Basis: delivered to Montreal.

TABLE 10—CONCENTRATED MILK PRODUCTS: PRODUCTION, DISTRIBUTION AND PRICES, CANADA 1955-67

	Average 1955–59	Average 1960–64	1965	1966 (Preliminary)	1967 (Forecast)
			thousand pounds		
Production					
Evaporated whole milk	304,976	312,279	310,136	309,892	303,000
Dry whole milk	21,016	27,800	21,947	7,732	9,000
Dry skim milk	129,778	191,285	222,155	263,508	310,000
Condensed whole milk	14,777	16,129	19,251	22,788	24,000
Exports					
Evaporated whole milk	4,891	7,591	6,654	8,499	5,000
Dry whole milk	17,150	23,656	19,653	6,710	6,500
Dry skim milk	33,905	46,893	86,258	69,447	100,000
Domestic disappearance					
Evaporated whole milk	298,700	306,415	299,633	300,166	293,000
Dry whole milk	3,954	3,828	3,840	1,298	2,000
Dry skim milk	96,650	143,092	138,892	163,499	160,000
Condensed whole milk	13,972	16,118	19,138	22,352	25,000
			dollars per case		
Wholesale price, Montreal[a]					
Evaporated whole milk	6.04	6.50	7.01	7.33	7.70
			cents per pound		
Dry whole milk	37.8	37.3	37.0	39.0	41.3
Dry skim milk (spray process)	14.1	10.2	15.2	17.5	20.0

[a]Simple average of monthly average prices for each year.

TABLE 11—ESTIMATED SUPPLY AND DEMAND FOR MILK, CANADA, 1960-66 AND FORECAST FOR 1967

	Average 1960–64	1965	1966	1967 (Forecast)
		thousands		
1. Population of Canada at July 1[a]	18,562	19,604	20,050	20,441
		million pounds milk equivalent		
2. Stocks, at January 1	5,011	3,174	2,697	2,532
3. Production	18,281	18,360	18,375	18,152
4. Imports	160	192[b]	192[b]	260[b]
5. Total Supply (2+3+4)	23,452	21,726	21,264	20,944
6. Domestic Human Consumption				
Fluid milk and cream	5,970	6,085	6,104	6,124
Butter	7,697	8,423	8,228	7,726
Cheese	1,438	1,743	1,775	1,941
Other Products	1,400	1,355	1,433	1,500
Total	16,505	17,606	17,540	17,291
7. Fed to Livestock	835	775	709	690
8. Exports	1,112	650[b]	483[b]	405[b]
9. Total Disappearance (6+7+8)	18,452	19,031	18,732	18,386
10. Stocks at December 31 (Calculated) (5−9)	5,000	2,695	2,532	2,558
11. Actual Stocks, Main Products	5,002	2,697	2,532	

[a]June 1 previous to 1963.

[b]See Table 5.

POULTRY MEAT AND EGGS

POULTRY MEAT

Situation

The production of poultry meat continued to expand in 1967 but at a slower rate than the average growth in recent years. Poultry meat output in 1967 is expected to reach 830 million pounds, a rise of 5 per cent from 1966; this compares with the average annual growth rate of 9 per cent achieved over the 1960 to 1966 period. Domestic consumption in 1967 is estimated at 840 million pounds, or 7 per cent up from 1966. The more rapid growth in consumption than production reflects the expected reduction in storage stocks during 1967 compared with the stock build-up which occurred in 1966. Per capita consumption of poultry meat will likely rise to about 41 pounds in 1967, up 1.5 pounds from a year earlier.

The consumption of poultry meat should increase at approximately the same rate as the consumption of total red meats, in 1967. The competitive price position of poultry with respect to beef improved as beef prices rose during the year. Competition from pork, on the other hand, increased sharply with the very large increase in supplies at lower prices.

The supply pattern changed during 1967. The expansionary phase in 1966 carried through the first half of 1967, and marketings in the January-June period were 16 per cent higher than a year earlier. Supplies in this period exceeded demand and resulted in a decline in prices and an increase in storage stocks of poultry meat. During July to September, marketings of broiler turkeys declined, and placements through the summer indicate that the production of all chicken and turkey in the fourth quarter of 1967 wil be lower than in the previous year. This should enable some reduction in the level of stocks.

Chicken and fowl production in 1967 will total an estimated 606 million pounds, eviscerated weight, consisting of 522 million pounds of broiler and roaster chicken and 84 million pounds of fowl. This represents a 7 per cent rise in production from a year earlier, the increase being almost all due to the growth in broiler chicken output. Domestic consumption of chicken and fowl, estimated at 618 million pounds for 1967, is about 12 million pounds higher than domestic production, the difference being made up by imports of 8 million pounds and a 4 million pound decline in storage stocks.

Broiler chicken marketings at registered stations from January to September 30, 1967, were 105 million head, or in eviscerated weight, 312 million pounds. This is an increase of 35 million pounds or 13 per cent from 1966. All the broiler producing provinces except British Columbia shared in the expansion of output. A 19 per cent increase from a year earlier occurred in Quebec which now supplies 37 per cent of the Canadian total; British Columbia production was unchanged, and the remaining provinces all recorded increase of between 10 per cent and 15 per cent. Broiler chicken marketings will total 406 million pounds in 1967, up 9 per cent from 1966.

Prices to producers for live No. 1 broiler chicken in September 1967 were from 0.5 cents to 3 cents below prices in September 1966. The differences in prices between provinces partly reflect the changes in production during the year. At one extreme, prices in Quebec, where the major growth occurred, were 18.5¢ per pound or 3¢ below 1966 prices. On the other hand, British Columbia with no increase in production, recorded a price of 21.5¢ per pound, only 0.5¢ below a year earlier. Prices in Ontario (19¢ per pound), Manitoba and Alberta (20¢) were 1 to 1.5¢ below the corresponding prices in 1966.

Breeders in broiler supply flocks in Canada showed a moderate increase in 1967 and stood at about 1,350,000 birds on September 1, up 5 per cent from a year earlier. The major increases occurred in Quebec, followed by British Columbia, Alberta and Nova Scotia; a small decline in numbers occurred in Ontario and Manitoba. Pullet chicks placed for broiler supply flock replacements, however, have declined markedly in Eastern Canada in recent months. In the six-month period to September 23, 1967, pullet chick placements in Canada numbered 1.3 million, a fall of 13 per cent from the same period last year.

Outlook

The future long-run growth in the demand for all poultry meat due to population and incomes growth is estimated at about 3.5 per cent per annum. Consequently, a growth in production of greater than 3.5 per cent per annum would necessitate a decline in poultry prices, if red meat prices remain unchanged. A small improvement in poultry prices relative to red meats may occur due to more favorable trends in costs of poultry production and distribution, with further advances in technology and

increased efficiency through greater industry concentration. However, the likely reductions in unit costs appear to be small in relation to those achieved in the past decade. Combining the demand and supply effects, it is projected that the poultry industry can expect to achieve a long-run growth of 4 to 4.5 per cent a year at constant profit margins per unit of output.

Poultry meat production in 1968 may expand at close to the projected long-run growth rate of 4 to 4.5 per cent. The rapid expansion in pork production during 1967 is expected to continue through 1968 and provide strong competition to poultry meat. The beef supply position could be such as to lead to further increases in the price advantage which poultry holds.

The expected drop in production in the last quarter of 1967 should enable a reduction of storage stocks to normal levels, and allow for a more stable growth in output in 1968. The decline in poultry meat prices in 1967 will tend to dampen the production response in the coming year, but this effect should be partly offset by the expected decline in feed costs. Record large crops of corn and soybeans are expected in North America this year.

Placements of broiler chicken in July-September 1967 were about 4 per cent below a year earlier, and marketings in the fourth quarter are expected to be slightly lower than in 1966. The expansion in broiler production is expected to resume in 1968 and continue at a somewhat faster rate than the growth in total poultry meat output. Pullet chicks placed for the Canadian broiler supply flock have declined in recent months but any deficit in Canadian hatching egg supplies may be offset by imports from the U.S.A.

Producer marketing boards are operating in all the major producing provinces except Manitoba and Quebec. The boards, through quota marketing plans, should be instrumental in keeping the expansion in output at close to the expected growth in demand. However, the possibility of imports either from the U.S.A., competition from other provinces, together with strong competition from other poultry products should ensure that marketing boards will not be able to raise broiler prices by keeping the market in short supply. This could also ensure optimum consumption.

United States prices of live broilers dropped in August, 1967, to a low of 12.9¢ per pound. The growth in production, however, is tapering off and, according to the U.S. Department of Agriculture, some rise in broiler prices in late fall and winter may be expected.

TURKEYS

Situation

Turkeys slaughtered in registered plants in Canada to September 30 totaled 10.1 million birds compared with 9.3 million in the same period of 1966. Most of the overall rise in 1967 turkey marketings was due to larger production of broiler turkeys in the first half of the year.

Placements of poults for broiler production were up sharply from year-ago levels during the last half of 1966 through to mid-March, 1967. This was especially so in south western Ontario, the main producing area, and to a lesser extent in the Fraser Valley of British Columbia, the third ranking centre of broiler turkey production. Broiler poult placements rose only modestly from year-earlier levels in Quebec.

As a result of the sharp expansion in broiler turkey production and of larger overall meat supplies in early 1967, prices of light and medium weight turkeys trended downward in the early months of this year. Cold storage stocks of turkeys at January 1, which were well above year-earlier levels, contributed to the downward pressure on producer and wholesale turkey prices. In March, representatives of all segments of the Ontario turkey industry recommended voluntary reductions in 1967 production programs. The recommendation was followed, and poult placements fell below year-ago levels and have remained lower, not only in Ontario but for Canada as a whole.

Similar concern about the level of heavy turkey prices under conditions of sharply higher poult placements last winter led to a reduction in placements from March to May, especially in Ontario, Manitoba, Quebec and Saskatchewan. This resulted in an overall reduction in national placements during this period, although producers in British Columbia and to a lesser extent in Alberta ignored the warnings and continued to expand their operations. Poult placements for heavy turkey production in June and July, although seasonally lower than peak placements from March to May, were up moderately on a national basis, with Ontario and British Columbia contributing most of the increase.

On the basis of Canadian placements and marketings to September 30, heavy turkey marketings at registered stations in Canada in 1967 will likely total about 7.1 million birds, slightly under the 7.3 million of 1966. Heavy tom marketings (16 pounds and up, eviscerated basis) are forecast at 3.8 million, up slightly from a year ago, and heavy hens (over 10 and under 16 pounds) are forecast at 3.3 million, accounting for all of the overall reduction.

Broiler turkey marketings in 1967 are forecast to total 8.7 million, up 500,000 head from slaughter in 1966. The sharp rise in first half-year marketings to 4.6 million accounts for all of the increase. Since July, output has been moderately below year-ago levels, and this trend will continue into early 1968, according to reports of poults placed for broiler production this summer and early fall.

Price relationships between light and medium weight turkeys this fall will influence the extent of further feeding of broilers for the Christmas market. Last year, prices of medium weight turkeys in Central Canada in early November rose to 4¢ above broiler prices, and considerable numbers of broilers were finished in the heavier class. This is not expected to occur this year because reduced broiler production, and hen imports from the United States will likely keep prices between broilers and heavy hens within a narrow range.

Heavy hen turkeys were being imported into Canada this fall partly because of very low prices in the United States compared with Canadian prices. The U.S. turkey crop, estimated at 126 million birds, will be up by 8 per cent from the previous year, and prices in that country are extremely low. The relatively higher level of heavy hen prices in Canada was due to anticipated requirements at Thanksgiving, and a shortage of offerings from stocks and marketings. Although storage stocks of heavy hens at October 1, preliminarily reported at 14.5 million pounds, were slightly above year-ago levels, marketings in the last quarter were expected to be down sharply from a year ago. The fact that the industry made cutbacks earlier this year will insure its being able to take full advantage of the maximum price differential (duty, exchange, freight) between Canadian and U.S. turkey prices this fall.

At October 3 at London, live No. 1 heavy hen turkeys (over 12 and under 20 lbs.) were quoted 24.5¢ per pound, 1¢ under a year ago. Last year hen prices rose to 27.5¢ at the same market in December, but prices this year are likely to be about 2 to 3¢ lower prior to Christmas.

Heavy tom (20 lbs. and over, live) prices at London at September 23 were 23¢, and will likely advance ½ to 1¢ into December.

Broiler turkey prices (under 12 lbs. live) at London at September 23 were 22.5¢ and seem likely to hold about this level until early 1968.

Producer marketing boards for turkeys began operation in British Columbia, Alberta and Saskatchewan during the past year. The plans being administered by these boards incorporate quota control powers. In Ontario, the Board is operating a promotion program only.

Outlook

The outlook for 1968 is for a continuation of the intensely competitive situation that has prevailed in turkey markets in 1967. With the trend toward fewer but larger producers, many small flock operations have been liquidated throughout Canada in recent years. From the grower's point of view, the growing of turkeys for open market selling appears to be a risky venture, and increasing numbers of birds will likely be produced under contract. Producer marketing boards will in all probability be a large factor in future turkey production in some provinces.

EGGS

Situation

The trend of rising egg production in Canada in 1967 has resulted in egg prices being down sharply from year-ago levels. The cumulative weighted average egg price to producers for all grades at registered stations to September 30 was 28.3¢ per dozen, down 9.2¢ from the same period in 1966 and about 3¢ below the 1959-63 average of 31¢ per dozen. The national weighted average price of Grade A Large for the 1966-67 marketing year was 36.7¢ per dozen compared with 42.4¢ in the previous year.

Marketings of eggs at registered grading stations in Canada in 1967 will set a new high, and will exceed by a wide margin the previous record marketings of 1964. Egg marketings to September 30 totaled 6.4 million cases (30 dozen per case), up by more than 0.6 million cases or by 11.7 per cent from deliveries in the same period of 1966.

In the first nine months of 1967, egg marketings averaged 163,000 cases weekly, and will likely equal or exceed this rate during the remainder of the year. If so, egg marketings for 1967 will total about 8.5 million cases compared with marketings of 7.8 and 7.5 million cases in 1965 and 1966 respectively.

The rising trend of egg production in 1967 reflects the expansion that has occurred in layer numbers in Canada since November, 1966, when the upward trend began. According to reports of egg type pullet chick placements from registered hatcheries, pullet layer numbers in Canada will rise to a peak in November, 1967 of 23.4 million, up 2.9 million from the same date a year ago. Because the rate of pullet chick replacements has dropped slightly below year ago levels since June, the supply of ready-to-lay pullets from November onward will be correspondingly smaller than in the same period a year earlier. However, by January, 1968, pullet layer

numbers in Canada, estimated at 23.2 million, will be up about 10 per cent from year-earlier numbers. If the lower rate of replacement continues as expected, egg marketings in the first half of 1968 will continue to exceed year-earlier levels, but by a diminishing amount each week. By mid-1968, weekly egg marketings will likely equal 1967 levels, which were record large and surplus to table egg requirements at that time.

The rise of egg marketings during 1967 resulted in a falling trend of egg prices from November, 1966 to June, 1967, when peak marketings occurred. Egg prices to producers for all grades across Canada firmed up in late July to 28¢ per dozen after having dropped rather steadily from an average of 46¢ per dozen in November, 1966, to a low of 24¢ during June and July. Prices have remained steady at about 28¢ per dozen during August and September.

With shell egg supplies in Canada up substantially from levels in 1966, the volume of egg processing operations expanded sharply in 1967. Liquid egg production in registered plants in the period from January to September 30 totaled 25.6 million pounds compared with 15 million in the same period last year. As a result of the heavy volume of processing, storage stocks of frozen eggs at October 1, at 9.2 million pounds, were up sharply from both beginning-year and year-ago levels of 2.7 and 3.8 million pounds respectively. The volume of liquid egg production in 1967 will likely exceed output in any year since 1959, when large quantities were processed for the Agricultural Stabilization Board.

The situation in egg markets in the United States in 1967 has been similar to that prevailing in Canada. Egg production was surplus to table egg requirements in the period following Easter to last July. Imports of shell eggs into Canada from the U.S.A. to September 30 totaled 185,000 cases in spite of the per dozen costs of duty (3.5¢), exchange (2.5¢) and freight (1 to 2¢). About 40 per cent of these were undergrades that were used for processing.

In July, the Agricultural Products Board put a direct purchase program for eggs into operation. Under this program, surplus eggs could be purchased for processing and distribution under food aid programs. The purchase program has contributed toward the improvement of price levels since last summer, although purchases under the program have not been large to date. No payment will be made under the egg deficiency payment program in 1967 because the national weighted average price ended the support year 2.7¢ per dozen above the national support level of 34¢, Grade A Large basis.

Outlook

Egg prices in Canada will likely come under pressure again by late fall and supplies will likely remain excessive until mid-1968. The main factor in egg price determination during this period will be the strength of the demand for processing eggs. In view of the larger stock position in egg products and the rather limited market for egg products in Canada, egg prices in 1968 could duplicate the low levels that prevailed in 1965, when a similar supply situation prevailed.

The egg supply situation will gradually be corrected in 1968, according to the lower rate of pullet replacements planned for this winter. Egg prices will likely rise more than seasonally next fall, as was the situation in late 1965 when an actual egg shortage developed because of too large a cutback in spring replacements. The same situation will likely prevail in late 1968, but to a lesser extent because of fewer and better informed specialized egg producers.

A large proportion of egg production is being undertaken in conjunction with grader-distributors, operating quality control and volume incentive programs. This greater co-ordination between distributors and producers should exert a stabilizing effect upon production and price. In addition, new egg marketing boards in British Columbia and in Quebec are pursuing the objectives of more stable incomes for egg producers. Both boards have quota controls on marketings for the purpose of keeping supply and demand in balance at remunerative price levels to producers.

TABLE 1—CHICKS AND POULTS PLACED ON FARMS IN CANADA, BY MONTH, 1964 TO 1967

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
							thousand						
Egg Production Chicks													
1964	1,383	2,106	4,346	5,389	4,744	2,326	1,087	804	907	979	986	993	26,050
1965	1,167	1,317	2,891	4,397	4,178	2,237	1,182	1,025	950	1,076	1,089	1,259	22,768
1966	1,311	1,663	3,161	3,947	3,853	2,516	1,461	1,342	1,423	1,385	1,464	1,539	25,065
1967	1,645	1,850	2,983	4,120	4,269	2,409	1,334	1,200					
Broiler Chicks													
1964	7,786	9,372	13,062	10,133	10,389	13,393	9,517	9,457	11,614	8,069	8,277	12,636	123,705
1965	10,026	9,861	11,676	12,103	12,810	12,383	11,857	11,306	10,845	10,217	10,802	11,178	135,064
1966	11,357	11,363	13,004	13,769	14,698	13,859	13,243	12,956	12,052	11,983	11,690	12,992	152,966
1967	12,649	11,960	16,367	14,047	14,315	16,874	11,334	13,182					
Broiler Weight Turkey Poults													
1964	299	325	301	387	568	750	749	737	682	532	491	460	6,281
1965	544	573	684	548	603	773	797	715	633	706	854	841	8,271
1966	578	704	760	810	690	962	1,081	999	902	800	1,041	1,014	10,341
1967	884	742	716	614	643	816	923	913					
Heavy Weight Turkey Poults													
1964	174	364	1,645	2,206	1,771	1,064	358	68	14	34	69	104	7,871
1965	204	537	1,672	2,049	1,912	959	455	113	36	57	93	134	8,221
1966	245	575	1,834	2,290	2,007	972	495	105	62	61	36	184	8,866
1967	348	752	1,915	1,902	1,819	1,175	609	174					

TABLE 2—EGG TYPE CHICK PLACEMENTS IN CANADA, WESTERN CANADA AND EASTERN CANADA, BY QUARTERS, 1963 TO 1967

	1963	1964	1965	1966	1967[a]
			million		
Canada					
January–March	6.5	7.8	5.4	6.2	6.5
April–June	12.9	12.4	10.8	10.3	10.8
July–September	3.0	2.8	3.2	4.2	3.7
October–December	3.5	3.0	3.4	4.4	3.7
Year	25.9	26.0	22.8	25.1	24.7
Western Canada					
January–March	2.9	3.3	2.3	2.6	2.7
April–June	6.6	6.2	5.5	5.2	5.3
July–September	0.9	0.9	0.9	1.4	1.2
October–December	1.2	1.0	1.2	1.4	1.1
Year	11.6	11.4	9.9	10.6	10.3
Eastern Canada					
January–March	3.6	4.5	3.1	3.6	3.8
April–June	6.3	6.2	5.3	5.1	5.5
July–September	2.1	1.9	2.3	2.8	2.5
October–December	2.3	2.0	2.2	3.0	2.6
Year	14.3	14.6	12.9	14.5	14.4

[a]The last quarter is estimated.

TABLE 3—EGGS: PRODUCTION IN CANADA, BY PROVINCE, 1955-59 TO 1967

	Average 1955–59	Average 1960–64	1965	1966	1967 (Forecast)
			thousand dozen		
Canada	422,497	431,111	432,795	412,943	450,000
Prince Edward Island	5,725	4,264	3,944	3,388	3,000
Nova Scotia	17,840	18,549	18,450	18,854	19,000
New Brunswick	8,128	9,007	9,189	8,680	8,000
Quebec	60,944	67,059	77,013	71,368	80,000
Ontario	173,014	178,447	170,701	159,267	173,000
Manitoba	35,911	38,270	42,584	40,257	44,000
Saskatchewan	39,907	31,410	25,379	22,562	22,000
Alberta	47,029	40,441	36,654	37,432	40,000
British Columbia	33,999	43,664	48,881	51,135	61,000

TABLE 4—EGGS: SUPPLIES AND DISTRIBUTION, CANADA, 1955-59 TO 1967

	Average 1955–59	Average 1960–64	1965	1966	1967[a]
			thousand dozen		
Stocks at January 1	9,096	4,998	6,900	5,490	4,230
Production: total	423,057	431,111	432,795	412,943	450,000
Imports[b]	2,539	4,344	5,853	17,734	14,000
Total supply	434,692	440,453	445,548	436,167	468,230
Exports	13,385	4,561	1,117	1,070	—
Used for hatching	13,325	17,584	20,627	23,178	23,500
Stocks at December 31	8,196	5,172	5,490	4,230	7,000
Apparent use as food	399,786	413,136	418,314	407,689	437,730

[a]Forecast, except for stocks at January 1.
[b]Includes eggs for hatching.

TABLE 5—EGGS: COMMERCIAL MOVEMENT, 1958 TO 1967

	Receipts at registered stations	Inspected for exports	Inspected shell egg imports[a]	Frozen in registered plants	Movement to consumer outlets[b]
			thousand cases of 30 dozen		
1958	6,735	439	1	435	5,849
1959	7,370	574	22	736	6,095
1960	6,976	287	4	559	6,142
1961	6,886	164	51	442	6,332
1962	7,097	30	56	546	6,576
1963	6,964	31	190	468	6,655
1964	7,796	50	17	595	7,167
1965	7,771	14	81	599	7,239
1966	7,537	6	257	468	7,319
1966 Jan.–Oct. 1	5,683	6	151	384	5,444
1967 Jan.–Sept. 30	6,351	—	194	657	5,888

[a]Does not include eggs for hatching.
[b]Adjusted for change in storage stocks.

TABLE 6—AVERAGE WEIGHTED EGG PRICES TO PRODUCERS FOR CANADA GRADE A LARGE SIZE, 1961-62 TO 1966-67

	Last Week of the Month						Cumulative from October 1					
	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67	1961–62	1962–63	1963–64	1964–65	1965–66	1966–67
	cents per dozen						cents per dozen					
October	47.1	37.8	44.3	34.2	50.7	50.4	47.2	42.7	47.0	30.9	50.0	50.4
November	42.6	46.8	37.9	26.7	51.7	50.3	46.6	43.6	43.3	30.2	49.1	50.2
December	28.3	33.8	32.4	29.0	42.6	45.2	40.1	40.0	40.4	29.8	48.6	49.7
January	28.8	28.4	30.3	21.8	34.4	34.9	36.7	37.0	37.8	27.9	44.8	46.8
February	31.0	37.7	31.1	25.8	37.2	32.8	35.2	36.0	36.0	27.2	43.2	43.9
March	32.0	34.8	28.9	27.2	43.5	35.2	34.5	36.4	35.0	27.1	42.6	41.8
April	28.6	33.7	26.9	29.4	43.2	32.8	33.9	36.4	33.9	27.4	42.7	40.6
May	26.2	32.2	23.1	28.8	35.6	29.7	33.0	35.9	32.4	27.7	42.1	39.3
June	25.5	30.8	25.9	29.2	34.8	28.1	32.2	35.5	31.7	27.7	41.2	38.1
July	29.4	39.1	30.2	32.2	44.4	32.7	31.8	35.6	31.3	28.0	41.0	37.0
August	40.1	41.6	38.8	39.6	50.8	35.0	32.5	36.0	31.7	28.8	41.7	36.9
September	41.0	50.1	30.7	47.3	50.2	36.6	33.0	36.8	32.0	29.7	42.4	36.7

TABLE 7—EGGS: MONTHLY WEIGHTED AVERAGE PRICES RECEIVED BY FARMERS FOR ALL GRADES OF EGGS AT REGISTERED STATIONS, CANADA, 1959-63 TO 1967

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	cents per dozen												
Average 1959–63	25	29	31	30	27	27	30	33	36	38	36	29	31
1964	28	29	28	26	22	22	24	30	30	26	25	25	26
1965	22	22	25	28	27	26	27	33	37	46	45	44	31
1966	32	34	38	41	36	32	35	44	45	45	46	45	44
1967	35	29	32	30	27	24	24	29	28				

TABLE 8—PRODUCTION OF POULTRY MEAT IN CANADA, BY PROVINCE, 1955-59 TO 1967[a]

	Average 1955–59	Average 1960–64	1965	1966	1967 (Forecast)
	thousand pounds eviscerated weight basis				
CHICKEN AND FOWL					
Canada	327,557	428,708	515,129	567,911	605,600
Prince Edward Island	2,542	1,349	1,180	1,021	1,000
Nova Scotia	8,102	13,710	15,409	18,849	19,200
New Brunswick	5,302	5,252	7,501	9,593	12,600
Quebec	67,132	129,094	177,337	198,117	216,300
Ontario	144,477	156,543	183,784	194,009	206,200
Manitoba	24,105	25,301	28,000	31,709	32,300
Saskatchewan	23,435	22,103	20,985	20,928	20,700
Alberta	29,707	40,539	43,732	51,304	52,400
British Columbia	22,755	34,817	37,201	42,381	44,900
TURKEY					
Canada	97,452	141,479	186,299	213,127	212,000
Prince Edward Island	265	219	127	125	100
Nova Scotia	1,011	674	1,678	1,161	1,500
New Brunswick	787	474	1,062	1,797	2,000
Quebec	13,797	17,438	27,869	35,987	37,000
Ontario	32,199	61,147	89,884	108,538	104,400
Manitoba	14,048	19,019	22,553	21,363	19,000
Saskatchewan	15,091	17,426	14,941	12,898	10,000
Alberta	13,202	16,574	17,154	16,977	19,000
British Columbia	7,052	8,509	11,031	14,281	19,000

[a]Total production, includes output not marketed through registered processing plants.

TABLE 9—POULTRY: MARKETINGS THROUGH REGISTERED PROCESSING PLANTS, BY KINDS IN CANADA, 1960-64 TO 1967

	Chicken	Fowl	Turkey	Duck and Goose	Total
	thousand pounds eviscerated weight basis				
Average 1960–64	290,397	39,933	121,019	3,555	454,904
1964	348,008	37,524	140,373	4,152	530,057
1965	376,005	36,914	163,230	4,262	580,411
1966	423,442	38,240	187,809	4,397	653,888
1966 Jan.–Oct. 1	313,687	28,138	102,963	1,954	446,742
1967 Jan.–Sept. 30	350,642	29,403	111,313	2,313	493,671

TABLE 10—SUPPLIES AND DISTRIBUTION OF POULTRY MEAT, CANADA 1955-59 TO 1967

	Average 1955–59	Average 1960–64	1965	1966	1967[a]
	thousand pounds eviscerated weight basis				
CHICKEN AND FOWL					
Stocks at January 1	18,589	15,932	18,882	17,896	23,806
Production[b]	327,557	428,708	515,129	567,911	605,600
Imports	6,528	8,534	7,896	10,013	8,500
Total supply	352,674	453,174	541,907	595,820	637,906
Exports	302	589	1,015	808	—
Stocks at December 31	18,534	17,152	17,896	23,806	20,000
Domestic disappearance	333,838	435,433	522,996	571,206	617,906
TURKEY					
Stocks at January 1	12,793	17,207	21,845	24,736	29,741
Production[b]	97,452	141,479	186,299	213,127	212,000
Imports	6,295	4,343	3,496	255	5,000
Total supply	116,540	163,029	211,640	238,118	246,741
Exports	21	89	800	1,062	—
Stocks at December 31	13,388	19,215	24,736	29,741	26,741
Domestic disappearance	103,131	143,725	186,104	207,315	220,000

[a]Forecast, except for stocks at January 1.
[b]Total production, includes output not marketed through registered processing plants.

TABLE 11—BROILERS: MONTHLY AVERAGE PRICES PAID TO PRODUCERS FOR LIVE BROILERS AT TORONTO, 1960-62 TO 1967

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	cents per pound												
Average 1960–62	18	18	19	18	17	18	18	18	17	17	17	17	18
1963	20	20	19	19	19	18	20	20	20	18	17	19	19
1964	18	18	18	16	17	18	20	18	17	17	16	17	18
1965	18	19	19	18	17	19	19	19	20	20	20	20	19
1966	20	21	21	21	20	20	20	20	20	20	20	20	20
1967	19	20	20	20	20	19	20	19	19				

TABLE 12—LIGHT FOWL: MONTHLY AVERAGE PRICES PAID TO PRODUCERS FOR LIVE NO. 1 AT TORONTO, 1958-62 TO 1967

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
							cents per pound						
Average													
1958–62	11	10	11	12	12	12	11	11	10	9	10	10	11
1963	11	12	14	14	14	14	13	12	12	11	11	11	12
1964	11	10	9	10	9	9	9	9	9	8	8	9	9
1965	8	8	8	9	9	9	10	10	10	10	10	10	9
1966	10	11	12	14	14	15	14	12	12	10	10	11	12
1967	11	11	11	10	9	8	6	6	7				

TABLE 13—TURKEYS: MONTHLY AVERAGE PRICES PAID TO PRODUCERS FOR LIVE NO. 1 AT LONDON, ONTARIO, 1964 TO 1967

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
							cents per pound						
1964													
12 and under	23	23	24	24	24	24	24	24	24	24	23	23	24
Over 12 and under 20	28	26	26	26	26	26	25	25	25	25	26	26	26
20 and over	24	28	28	28	31	33	28	25	24	24	24	25	27
1965													
12 and under	22	22	22	22	23	23	23	23	24	24	25	25	23
Over 12 and under 20	24	24	24	24	24	24	24	24	26	27	29	30	25
20 and over	26	27	27	26	27	27	25	23	23	24	24	25	25
1966													
12 and under	24	25	24	24	23	22	22	22	23	23	23	23	23
Over 12 and under 20	29	27	25	24	24	24	23	24	25	26	26	27	25
20 and over	26	26	26	26	26	26	25	23	23	23	23	24	25
1967													
12 and under	22	22	22	20	20	21	21	21	22				
Over 12 and under 20	24	24	23	22	23	23	23	23	24				
20 and over	26	27	27	26	26	26	24	23	23				

FRUITS, VEGETABLES, HONEY AND MAPLE PRODUCTS

DEVELOPMENTS AND TRENDS

There are now 22 marketing groups working in the field of fruit and vegetables. New marketing groups which were not operating last year are the British Columbia Mushroom Marketing Scheme, the Ontario Greenhouse Vegetable Producers' Marketing Plan and the "plan conjoint des producteurs de bleuets du Saguenay". A plebiscite on the Manitoba Vegetable Marketing Plan was held in October, 1967, and the growers voted to discontinue its operations. A single desk selling agency was created in the Niagara Peninsula in 1966 for selling peaches, pears, plums, prunes and grapes on the fresh market on a compulsory basis and other fresh fruit crops on a voluntary basis. The introduction of these plans is part of a continuing development towards increased producer control over the marketing of horticultural products.

The use of air freight for the transport of produce has been increasing in recent years and is now a significant factor in the market situation. British Columbia continued to fly tender fruits to Europe this year and approximately 2 million pounds of Dutch tomatoes were shipped to Canada during a brief period in July when North American supplies were inadequate.

A number of developments, which are expected to have an increasing impact on the fruit industry in the future, are under way. One of these involves the change to increasing concentrations of spray pesticides through the use of improved machinery, permitting reduced gallonage per acre. With these low-volume sprays, which require less water dilution, the costly handling of water in bulk is reduced without detriment to the efficiency of the protection. An accompanying trend is the use of aerial spraying by means of helicopters for increased efficiency and speed. Other developments include the greater use of mechanical harvesting.

The big freeze of 1964-65 in the interior of British Columbia damaged or killed a large proportion of the apple, peach and other tender fruit trees. So far, the recovery of the apple and pear trees has been better than expected; also, the injured peach and apricot trees have made a good comeback. Present indications are that some of the lost peach trees were replaced by apple trees.

An important result of the Kennedy Round tariff negotiations for the processing industry was the Canadian concessions providing lower duties on some processing equipment and tins.

APPLES

Situation

The 1967 preliminary estimate of apple production stands at a record 24.9 million bushels, 19 per cent more than in 1966 and 8 per cent more than the previous record of 23 million bushels produced in 1963. Early forecasts indicate that increased production, over the last year, will occur in all apple producing provinces with the exception of Ontario. In Quebec, a new production record will be established this year which is largely the result of new orchards coming into bearing.

In 1966, over 37 per cent of the Canadian apple crop was used for processing. Nova Scotia processes about 71 per cent of the crop, while Quebec, Ontario and British Columbia process 14, 48, and 32 per cent respectively.

In the United States, the 1967 crop is presently forecast at 126 million bushels, slightly below last year and 3 per cent below average. The expected Canadian crop added to the United States production will result in a total North American crop of almost 151 million bushels, or about 3 million bushels more than last year. The Michigan crop is estimated to be 80 per cent of 1966 and California production is estimated to be 65 per cent of last year.

The total production of the 1967 apple crop in France, West Germany, and Italy is estimated at 249.9 million bushels, 12.2 million bushels less than the 1966 crop. To date, no definite production figures have been received for England and Wales due to census revisions. However, early estimates indicate that dessert apples will be about 80 per cent of last year while cooking apples are expected to produce a crop equivalent to 70 per cent of that of last year.

Average wholesale prices for Ontario Fancy McIntosh at Toronto were $3.45 in 1966-67, compared with $3.19 in 1965-66, while at Montreal, Quebec Fancy McIntosh sold for $4.15 in 1966-67 and $2.19 in 1965-66. Prices of British Columbia McIntosh in Winnipeg have been steady at about $4.60 per bushel for two years.

Outlook

It is anticipated that the additional supplies available from the record production will be absorbed by increased sales to the fresh market at lower price levels than last year and to processors for a predicted increase in the pack of apple products. It is also expected that some increase will occur in the export market which will assist in the disposition of the apple crop.

The volume of exports of fresh apples in the 1966-67 season maintained the average of recent years, but only because of a sharp increase in shipments to United States which compensated for a reduction in British purchases. The increasing European supplies, particularly of French Golden Delicious which are making inroads on the market in Britain, are part of a trend towards higher output of dessert apples in major producing countries. Canadian exporters in the long run will need to expand their sales to some of the lesser markets if the export volume is to be maintained. In recent years they have made considerable progress in Scandinavia and in Brazil where a breakthrough was achieved last season. The smaller crops in California and Michigan should result in increased sales of Canadian McIntosh in Southern California and the Great Lakes States.

Due to the decrease in the British dessert apple crop in 1967-68, the British government has announced an increase in the July 1-December 31 import quota of 50 per cent and in the January 1-June 30 quota of about 33⅓ per cent. It is expected that Canadian exporters will be able to secure a share of this increased market prospect.

The British government, faced by a serious shortage of processing apples, is issuing licences this season for the import of processing apples outside the quota for dessert varieties. This presents an opportunity for Canadian shippers if prices offered by British buyers are attractive. The shortage of processing apples in Britain will create an increased demand and strong prices for canned solid pack apples. Canada has been increasing its share of that market and is the leading supplier.

Current movement of processing grade apples from Quebec to the Eastern United States indicates a promising outlet for the present season.

A result of the Kennedy Round tariff negotiations for the Canadian apple industry was the reciprocal elimination by the United States and Canada of duties on fresh apples. While this is a desirable move in the direction of free trade, it is unlikely to have a significant effect on the apple industry.

POTATOES

Situation

The November forecast for the 1967 potato crop in Canada was 43 million cwt.; 21 per cent less than the 1966 total of 54.6 million cwt. but only about 5 per cent less than the 1960-64 average. Planted acreage decreased by 5 per cent this year, by comparison with last year, and the average yield declined to 146.2 cwt. per acre from 171.5 cwt. per acre in 1966. The 1967 crop is expected to be down in all provinces. By comparison with last year, a 27 per cent decrease is in prospect for Ontario. In the Maritimes, a 20 per cent reduction is indicated, followed by a 12 per cent and a 9 per cent decrease in the Western Provinces and Quebec respectively.

The acreage entered for seed certification in Canada in 1967 was a record 99,000 acres or 15 per cent greater than the previous record established in 1966.

As of September, the United States estimate of the fall potato crop was 224 million cwt., about 2 per cent less than 1966. The North American total of 267 million cwt. is 18 million cwt. less than 1966, but substantially above the 1960-64 average of 234 million cwt.

The record 1966 potato crop created disposal problems notwithstanding record exports, and prices declined substantially in the latter part of the season. At the request of the industry, the Agricultural Stabilization Board was authorized to initiate programs for starch diversion and livestock feeding. An additional program was also undertaken by the provinces for disposal. Under these programs an estimated total of 4.2 million cwt. was handled.

The proportion of the Canadian potato crop used for processing in canning, freezing and chipping amounted to 13.8 per cent of the 1966-67 crop and this form of utilization continues to increase each year.

Total exports of seed and table potatoes in 1966-67 were respectively 3.1 million cwt. and 1.7 million cwt. The seed exports were well above the 1955-65 average of about 2 million cwt.

Outlook

The domestic disappearance of fresh potatoes has changed little over recent years and, while the production of processed potato products has increased, the overall situation does not encourage expansion in the industry.

The downward pressure on Canadian table potato prices which has existed since the summer of 1966, could ease slightly although the United States market may put a ceiling on any rise in the Canadian market, particularly in the Eastern Provinces.

The export market is unpredictable for table potatoes. The export potential is tied mainly to the United States and is in turn dependent on their production. With a slightly reduced U.S. crop in prospect this season, there should be a good demand in that market for potatoes out of Western Canada. There is also each year a movement to the South American and Caribbean market and occasionally to Italy.

While it is impossible to predict market conditions until the outturn in major production areas of the United States is known, that market may not require as large quantities as last season when the seed quota was filled at an early date. A reduction in this year's requirements for Uruguay and Greece may be made up in increased sales to other countries such as Argentina.

The demand for frozen potato products on export markets remains strong. The movement of "frozen French fries" to Britain during the first half of 1967 doubled in volume over the same period last year. A sharp decline in exports to the United States and Australia was noted but only a small proportion of the total was involved. Prospects are that the volume of foreign sales will continue at the same level at least for the next year or two.

Canned whole potatoes have become a significant export item to Britain in recent years. However, competition from domestic canners and European suppliers is strong. Plants in the Maritime Provinces are packing for the British market this season.

OTHER FRUITS

Situation

Canadian production in 1967 was smaller than in 1966 for all tender tree fruit except sweet and sour cherries, and outturns were higher for all small fruit except grapes and raspberries. Sour cherry production in Ontario is estimated to be about 73 per cent more than the crop of 1966; however, production of other fruit crops, except strawberries and raspberries, was down. Fruit production in British Columbia was greater this year, except for apricots, strawberries and raspberries. Quebec showed an increase in strawberry and raspberry production. The blueberry crop was up in the Atlantic Provinces.

Imports of fresh fruit have remained relatively constant in recent years while import of canned peaches and pears have increased significantly.

Under marketing board programs Ontario processors paid higher prices this year than last year for purple raspberries, white and black sweet cherries for brining, sour cherries, Bartlett pears, peaches, grapes, and plums and prunes. Prices remained unchanged for Kieffer pears.

Outlook

The demand for fresh fruit on the domestic market has remained at fairly constant levels and this, along with strong prices, is expected to be the case in the next few years. Domestic supplies of canned peaches and pears, in recent years, have not been sufficient to meet requirements and as a result imports are expected to remain at the same level for at least the next few years.

Sales of canned red sour pitted cherries to Britain and West Germany are likely to increase due to the short pack in Michigan. There are prospects for increased shipments of frozen and canned berries to Britain.

The outlook for export sales of fresh and frozen lowbush blueberries to the United States is expected to be adversely affected by an above-average crop and carryover in the State of Maine.

OTHER VEGETABLES

Situation

Larger acreages of beans, peas, and tomatoes were reported under contract in 1967 than in 1966, while the corn acreage was down slightly. This national contracted acreage reflects to a certain degree the stock positions of these commodities at the beginning of the new season. Contracted acreage of vegetables for processing includes crops grown by farmers under contract as well as crops grown on land owned or rented by processors. The minimum prices for processing crops were generally higher this year by comparison with last year.

Ontario and Manitoba, the only provinces for which forecasts are available, increased their acreages of cabbage, table corn, celery and onions in 1967 but, due to unfavorable growing conditions, production will not likely reach the levels of 1966.

Exports of onions to the United Kingdom decreased in 1966-67 by about 27 per cent by comparison with those of 1965-66. In 1966-67, exports of carrots to the United States increased by about 46 per cent over those of the preceding year. To date, export movement from the current crop out of Ontario and Quebec has been equivalent to shipments in the same time period last year.

The prospects for an increased pack of Canadian and U.S. processed corn and tomatoes have been influenced by shortages of raw product due to various unsatisfactory climatic conditions, and packs are coming out at last year's levels or less.

Outlook

The production of canned peas has gradually been decreasing while that of frozen peas has more than doubled from the 1955-59 average of 22.7 million pounds. It is anticipated that this trend will continue.

The production of other frozen vegetables has also been rapidly increasing, while canned production has been increasing but at a slower rate, and this situation will likely continue for at least the next few years.

Sales of canned whole kernel corn to Britain continue to increase. Sales of canned tomato juice to Britain picked up in the first half of 1967 and prospects appear good for the continuation of this market.

The export movement of onions and carrots from the 1967 crop is now in progress and prospects are for shipments of a volume equivalent to 1966 based on requirements of traditional importers of Canadian onions and carrots.

HONEY

Situation

Canadian honey production is expected to total about 39 million pounds in 1967, some 12 per cent less than the 44.5 million pounds produced in 1966. The number of colonies in 1967 is estimated at 441,440 and the yield per colony at 88 pounds, compared with 429,860 colonies yielding an average of 104 pounds the previous year.

Domestic utilization of the 1966 crop was 3.2 million pounds less than that of 1965 when the crop was 4.6 million pounds greater. At the same time, domestic prices have remained steady.

In the 12 month period ended June 30, 1967 the United Kingdom bought more than 6.5 million pounds of honey from Canada accounting for almost 90 per cent of the total amount exported.

Outlook

The upward trend of export sales of the past few years is not likely to continue. Unprecedentedly large shipments of Canadian honey to the United Kingdom during the latter part of 1966 and depressed world markets, due to the large crop of Argentine honey offered at extremely low prices, resulted in a backlog of unsold stocks in Britain and a sharp decline in Canadian exports early in 1967. In recent months, the demand of Canadian honey on export markets has strengthened and a near normal export rate has been re-established.

A continuation of the expansion of the markets in West Germany, Japan, United States and France, which has been taking place, will help to maintain the volume of export sales and the disposal of the smaller current crop.

MAPLE PRODUCTS

The 1967 production of maple products represents 2.5 million gallons expressed as syrup. This figure is 22 per cent below the 3.2 million gallons produced in 1966 and is made up of 2.4 million gallons of maple syrup, 433,000 pounds of maple sugar and 439,000 pounds of maple taffy.

The total farm value of production of maple products for the 1966 crop in Canada stood at $14.6 million, well above the $9.8 million of the previous season. Maple syrup made up $14 million of the total while farm-made maple sugar amounted to $303,000 and maple taffy produced in Quebec was valued at $301,000.

Removal of the tariff on maple products as a result of the Kennedy Round is likely to have a favorable effect on the price and volume of exports. Packers are preparing containers and packages in anticipation of an increase of export sales.

GREENHOUSE INDUSTRY

The Canadian greenhouse industry comprises about 26 million square feet covered by glass, plastic and cloth, and in 1966 the total value of all greenhouse sales reached $33.7 million, compared with 25 million square feet and a total value of sales of $30.4 million in 1965.

Greenhouse vegetables have been increasing in importance during the last six years. Total value of vegetable sales in 1966 amounted to $9 million compared with $4 million in 1960. This represents 26.7 per cent of the total sales in the greenhouse industry. The tomato crop is the most important item in greenhouse vegetable production, followed very closely by cucumber production. The total value of greenhouse tomato sales in 1966 was $4.9 million, while cucumber sales amounted to $3.9 million. This represents increases of 172 and 86 per cent respectively over the 1960 figures.

Ontario represents 68 per cent of the total industry and 78 per cent of the greenhouse vegetable sector. The value of sales of greenhouse tomatoes and cucumbers in that province amount to 75.5 and 82.1 per cent respectively of the total Canadian greenhouse tomato and cucumber sales.

Greenhouse production of vegetables, especially tomatoes, has shown a very sharp increase over the last few years, but it is unlikely that this rate of increase will be maintained in the future due to strong import competition from other countries. However, it is anticipated that expansion of the greenhouse industry in total will continue.

TABLE 1—APPLES: PRODUCTION IN CANADA BY PROVINCES, 1955-59 TO 1967

	Average 1955–59	Average 1960–64	1965	1966	1967 (Forecast)
			thousand bushels		
Canada	15,944	18,922	22,305	21,058	24,917
Nova Scotia	2,418	2,693	3,100	2,962	3,400
New Brunswick	405	465	450	450	500
Quebec	3,758	4,247	7,733	4,100	7,813
Ontario	3,915	5,269	5,383	5,933	5,445
British Columbia	5,448	6,248	5,639	7,613	7,759

TABLE 2—FRESH FRUITS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1955-59 TO 1967-68

	Average 1955–59	Average 1960–64	1965–66	1966–67 (Preliminary)	1967–68 (Forecast)
			thousand bushels		
APPLES					
Production	15,944	18,922	22,305	21,058	24,917
Imports	1,069	1,179	1,295	1,105	
Total supply	17,013	20,101	23,600	22,163	
Fresh exports	2,383	2,935	2,544	3,045	
Processed	4,510	5,864	7,480	7,936	
Waste	2,340	2,671	2,900	2,680	
Available for domestic use	7,780	8,631	10,676	8,502	
			annual wholesale price dollars		
Ontario McIntosh (Toronto) Fancy—bu...	2.71	3.12	3.19	3.45	
B.C. McIntosh (Winnipeg) Fancy cell. pack	4.50	4.45	4.63		
			thousand bushels		
PEARS					
Production	1,360	1,692	1,065	2,061	1,867
Imports	529	488	660	674	
Total supply	1,889	2,180	1,725	2,735	
Fresh exports	28	103	35	122	
Processed	694	882	694	994	
Available for domestic use (fresh)	1,167	1,195	996	1,619	
			annual average wholesale price dollars		
Ontario 6 qt. (all markets)	0.92	0.99	1.13	0.94	
B.C. Bartlett box (all markets)	5.39	5.79	3.63[a]	5.91	
			thousand bushels		
PLUMS AND PRUNES					
Production	637	580	505	590	461
Imports	335	351	360	382	
Total supply	972	931	865	972	
Exports	14	5	9	1	
Processed	180	154	80	201	
Apparent domestic disappearance	778	772	776	770	
			annual average wholesale price dollars		
Ontario—6 qt.	1.00	1.11	1.17	1.34	
British Columbia—6 qt.	—	—	2.60	2.54	

TABLE 2—FRESH FRUITS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1955-59 TO 1967-68 (Continued)

	Average 1955–59	Average 1960–64	1965–66	1966–67	1967–68 (Forecast)
			thousand bushels		
CHERRIES					
Production	600	767	686	677	1,022
Imports	44	58	80	98	
Total supply	644	825	766	775	
Fresh exports	19	43	19	40	
Processed	282	411	482	392	
Available for domestic use (fresh)	343	371	265	343	
			annual average wholesale price dollars		
Ontario Black sweet 6 qt. (all markets)	2.13	2.18	2.78	2.13	
Ontario Sour 6 qt. (all markets)	1.53	1.66	1.69	2.18	
B.C. Bing and Lamberts (all markets) 20 lb.	7.46	7.17	10.05	8.49	
			thousand bushels		
PEACHES					
Production	2,608	2,586	1,606	2,085	1,698
Imports	530	680	929	680	
Total supply	3,138	3,266	2,535	2,765	
Fresh exports	26	8	2	8	
Processed	1,228	1,208	699	776	
Available for domestic use (fresh)	1,884	2,050	1,834	1,981	
			annual average wholesale price dollars		
Ontario 6 qt. heaped No. 1 (all markets)	1.14	1.17	1.26	1.13	
B.C. Box No. 1 (all markets)	2.42	2.50	—	2.97	
			thousand bushels		
APRICOTS					
Production (B.C. only)	192	273	2	279	163
Imports	94	58	134	79	
Total supply	286	331	136	358	
Fresh exports	—	2	—	—	
Processed	89	113	n.a.	118	
Available for domestic use (fresh)	197	216	n.a.	240	
			annual average wholesale price dollars		
Price per B.C. vu-pack No. 1 (all markets)	2.21	2.26	—	2.30	
			thousand quarts		
STRAWBERRIES					32,902
Production	20,715	25,925	17,281	30,695	
Imports	13,458	16,982	12,551	11,936	
Total supply	34,173	42,907	29,832	42,631	
Fresh exports	146	93	n.a.	n.a.	
Processed	10,634	11,237	6,252	14,417	
Available for domestic use (fresh)	23,393	31,577	23,580	28,214	
			annual average wholesale price dollars		
Quarts (all markets) East	0.36	0.37	0.46	0.43	
24 pt. crate (all markets) West	6.62	6.77	7.98	7.42	
			thousand quarts		
RASPBERRIES					
Production	10,829	11,740	13,485	13,910	13,567
Imports	767	311	71	118	
Total supply	11,596	12,051	13,556	14,028	
Fresh exports	—	1,161	2,948	3,975	
Processed	7,114	8,131			
Available for domestic use (fresh)	4,482	2,759			
			annual average wholesale price dollars		
Pints (all markets) East	.28	.28	.35	.36	
24 pt. crate (all markets) West	6.35	6.78	8.21	7.63	

TABLE 2—FRESH FRUITS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1955-59 TO 1967-68 (Concluded)

	Average 1955–59	Average 1960–64	1965–66	1966–67	1967–68 (Forecast)
			thousand pounds		
GRAPES					
Production	86,989	103,439	126,012	122,536	121,056
Imports	133,665	185,198	262,982	262,384	
Total supply	220,654	288,637	388,994	384,920	
Fresh exports	13,346	12,845	18,837	14,966	
Processed	55,297	73,372	74,970	91,428	
Available for domestic use (fresh)	152,011	202,420	295,187	278,526	
			annual average wholesale price dollars		
Ontario—Blue 6 qt. No. 1 (all markets)	0.90	1.02	1.03	0.98	
			minimum price for processing dollars per ton		
Ontario	85.05	99.00	107.00	102.50	104.00

[a]Handi-Pack "C".

TABLE 3—BLUEBERRIES: PRODUCTION, PRICES AND EXPORTS, CANADA, 1955-59 TO 1967-68

	Average 1955–59	Average 1960–64	1965	1966	1967 (Forecast)
			thousand pounds		
Canada (excluding Ontario)	18,614	20,142	18,145	37,509	39,611
Newfoundland	1,043	1,887	2,264	2,361	3,000
Prince Edward Island	350	234	250	550	650
Nova Scotia	3,964	6,120	7,000	7,600	11,500
New Brunswick	3,280	3,800	2,500	7,000	7,000
Quebec	8,596	5,911	3,081	16,550	5,461
British Columbia[a]	1,381	2,190	3,050	3,448	12,000
			annual average wholesale price dollars		
Eastern 11 qt. basket	4.51	4.56	5.57	4.86	
B.C. 24 pt. crate	8.11	8.33	9.85	10.08	
			thousand pounds		
Exports (fresh)	9,138	6,828	5,720	15,004	
Exports (frozen)	1,845	5,397	6,369	4,432	
Total	10,983	12,225	12,089	19,436	

[a]Cultivated highbush blueberries.

TABLE 4—CANNED FRUITS: SUPPLIES, DISTRIBUTION AND PRICES, FOR PROCESSING, CANADA, 1955-59 TO 1967-68

	Average 1955–59	Average 1960–64	1965–66	1966–67 (Preliminary)	1967–68 (Forecast)
			thousand pounds		
APPLES[a]					
Beginning stocks	15,680	16,552	20,385	23,533	
Production	32,147	44,248	53,948		
Total supply	47,827	60,800	74,333		
Exports	1,481	6,070	6,639	10,942	
Ending stocks	15,135	17,603	23,533	20,403	
Apparent domestic disappearance	31,211	37,127	44.161		

TABLE 4—CANNED FRUITS: SUPPLIES, DISTRIBUTION AND PRICES FOR PROCESSING, CANADA, 1955-59 TO 1967-68 (Continued)

	Average 1955–59	Average 1960–64	1965–66	1966–67 (Preliminary)	1967–68 (Forecast)
			thousand pounds		
APPLE JUICE					
Beginning stocks	22,859	29,574	41,365	59,490	67,556
Production	70,336	110,970	168,563		
Total supply	93,195	140,544	209,928		
Exports[b]	2,976	3,747	3,303		
Ending stocks	22,464	29,756	59,490	67,556	
Apparent domestic disappearance	67,755	107,041	147,135		
			thousand pounds		
PEARS					
Beginning stocks	15,240	13,325	11,485	10,878	18,456
Production	31,041	33,451	27,277	38,503	
Imports	3,939	6,207	7,670	11,167	
Total supply	50,220	52,983	46,432	60,548	
Exports	1,162	2,052	232	544	
Ending stocks	15,410	12,883	10,878	18,456	
Apparent domestic disappearance	33,648	38,048	35,322	41,548	
			minimum prices for processing dollars per ton		
Ontario					
Bartlett—2″ up	106.60	110.80	130.50	115.50	140.50
Kieffer—2′/16″ up	56.00	58.10	67.00	67.00	n.a.
			thousand pounds		
PLUMS					
Beginning stocks	4,256	2,934	2,605	1,315	4,924
Production	10,253	8,918	5,846	11,987	
Total supply	14,509	11,852	8,451	13,302	
Ending stocks	4,297	3,047	1,315	4,924	
Apparent domestic disappearance	10,212	8,805	7,136	8,378	
			minimum prices for processing dollars per ton		
Ontario					
Felenburg and German	66.70	82.80	95.50	105.50	135.50
			thousand pounds		
CHERRIES					
Beginning stocks	2,391	1,480	2,076	624	1,904
Production	8,248	10,605	10,578	12,320	
Total supply	10,639	12,085	12,654	12,944	
Ending stocks	2,148	1,681	624	1,904	
Apparent domestic disappearance	8,491	10,404	12,030	11,040	
			minimum prices for processing dollars per ton		
Ontario					
Sweet white	220.10	260.40	270.50	300.50	300.50
Sweet black for canning	240.10	283.40	220.50	340.50	340.50
Sweet black for brining	—	—	220.50	240.50	250.50
Sour	183.00	183.50	150.50	260.50	300.50
			thousand pounds		
PEACHES					
Beginning stocks	19,171	16,079	10,134	5,288	8,443
Production	53,923	47,920	28,482	29,475	
Imports	16,502	29,394	42,532	56,985	
Total supply	89,596	93,393	81,148	91,748	
Exports	1,901	486	49	81	
Ending stocks	19,599	15,065	5,288	8,443	
Apparent domestic disappearance	68,096	77,842	75,811	83,224	
			minimum prices for processing dollars per ton		
Ontario					
Jubilee 2″ up	96.40	104.00	125.50	125.50	140.50
Others 2″ up	83.40	100.00	120.50	120.50	

TABLE 4—CANNED FRUITS: SUPPLIES, DISTRIBUTION AND PRICES FOR PROCESSING, CANADA, 1955-59 TO 1967-68 (Concluded)

	Average 1955–59	Average 1960–64	1965–66	1966–67 (Preliminary)	1967–68 (Forecast)
			thousand pounds		
APRICOTS					
Beginning stocks	3,561	2,115	2,597	1,402	2,594
Production	5,932	6,048	4,648	8,128	
Imports	5,034	4,859	7,756	5,530	
Total supply	14,527	13,022	15,001	15,060	
Ending stocks	3,641	2,019	1,402	2,594	
Apparent domestic disappearance	10,886	11,003	13,599	12,466	
			thousand pounds		
STRAWBERRIES					
Beginning stocks	1,487	785	771	350	483
Production	2,985	3,150	1,827	3,453	
Total supply	4,472	3,935	2,598	3,803	
Ending stocks	1,255	801	350	483	
Apparent domestic disappearance	3,217	3,134	2,248	3,320	
			minimum prices for processing cents per 20 oz. quart		
Ontario	15.2	17.1	18.0	19.5	
			thousand pounds		
RASPBERRIES					
Beginning stocks	848	409	555	526	378
Production	2,835	3,396	3,167	2,770	
Total supply	3,683	3,805	3,722	3,296	
Ending stocks	634	406	526	378	
Apparent domestic disappearance	3,049	3,399	3,196	2,918	
			minimum prices for processing cents per 20 oz. quart		
Ontario					
Purple	25.9	27.4	35.5	36.5	41.0
Red	—	—	37.5	39.0	

[a]Includes solid pack apples, apple sauce and apple pie filling.
[b]Conversion factors:
(1) not concentrated—no. of gallons × 10.6 pounds.
(2) concentrated—no. of gallons × 10.6 pounds × 7.0 pounds.

TABLE 5—POTATOES AND VEGETABLES: ACREAGE IN CANADA BY PROVINCE, 1955-59 TO 1967

	Average 1955–59	Average 1960–64	1965	1966	1967 (Forecast)
			thousand acres		
POTATOES					
Canada	304.8	290.4	298.8	318.9	303.8
Prince Edward Island	44.0	42.8	43.0	52.1	51.0
Nova Scotia	10.1	7.3	7.0	6.2	5.0
New Brunswick	46.0	52.2	57.0	64.9	62.0
Quebec	92.6	71.5	63.5	74.7	71.0
Ontario	53.5	51.3	56.0	52.1	48.0
Manitoba	15.6	21.2	26.5	24.5	26.5
Saskatchewan	14.1	12.3	12.3	8.5	8.0
Alberta	18.4	21.1	23.0	25.4	22.4
British Columbia	10.5	10.7	10.5	10.5	9.9
			number of acres		
VEGETABLES					
Canada	202,224	222,712	239,440	245,710	
Prince Edward Island	n.a.	n.a.	n.a.	n.a.	
Nova Scotia	4,136	3,804	4,330	4,830	
New Brunswick	1,676	7,312	9,040	10,020	
Quebec	57,848	72,684	75,530	75,210	
Ontario	106,740	103,966	116,510	119,900	
Manitoba	4,150	3,662	3,630	2,810	
Alberta	11,840	15,736	13,010	16,330	
British Columbia	15,834	15,548	17,390	16,610	

TABLE 6—POTATOES: PRODUCTION IN CANADA BY PROVINCE, 1955-59 TO 1967-68 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1955–59	Average 1960–64	1965–66	1966–67	1967–68 (Forecast)
			thousand hundredweight		
Canada	40,297	45,403	46,472	57,180	42,993
Prince Edward Island	7,534	7,791	7,341	10,776	8,415
Nova Scotia	1,433	981	858	973	735
New Brunswick	8,662	10,398	11,280	14,450	11,253
Quebec	9,813	9,126	7,239	8,770	7,512
Ontario	7,112	9,724	10,584	12,504	6,840
Manitoba	1,274	2,013	3,100	3,062	2,800
Saskatchewan	881	826	970	619	588
Alberta	1,683	2,541	3,000	3,907	3,000
British Columbia	1,905	2,003	2,100	2,119	1,850

TABLE 7—PACK OF PROCESSED POTATO PRODUCTS, CANADA, 1962-66

	Unit	1962	1963	1964	1965	1966 (Preliminary)
Canned white potatoes	'000 cases	[a]	91	156	136	[a]
Chips, frills, etc.	'000 lbs.	50,465	47,762	51,946	50,026	54,247
Dehydrated (flakes, granules, etc.)	'000 lbs.	6,063	4,733	6,741	[a]	[a]
Frozen french fried potatoes and other frozen products	'000 lbs.	28,035	35,681	54,591	104,072	108,868
Pre-peeled and cut	'000 lbs.	8,535	13,282	14,847	18,126	19,443

[a]Not available.

TABLE 8—POTATOES, ONIONS AND CARROTS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1955-59 TO 1967-68

	Average 1955–59	Average 1960–64	1965–66	1966–67 (Preliminary)	1967–68 (Forecast)
			thousand hundredweight		
POTATOES					
Production	40,297	45,403	46,472	57,180	42,993
Imports	1,897	1,617	2,010	1,520	
Total supply	42,194	47,020	48,482	58,700	
Used for seed following year	2,884	2,802	3,061	2,895	
Processed	2,207	4,216	5,400	7,891	
Exports—table stock	1,090	1,649	782	1,662	
—certified seed	1,856	2,128	1,961	3,081	
Shrinkage (20% of crop)	8,059	9,081	9,294	14,295[a]	
Apparent domestic disappearance (fresh)	26,098	27,144	27,984	28,876	
			annual average wholesale price per 100 lb. dollars		
Montreal (N.B. potatoes)	2.74	2.77	3.30	2.14	
Toronto (P.E.I. potatoes)	3.14	3.24	3.93	2.76	
			thousand pounds		
ONIONS					
Production	117,146	205,678	288,966		
Imports	80,864	59,794	61,542	79,504	
Total supply	198,010	265,472	350,508		
Fresh exports	5,939	43,842	61,049	44,406	
Available for domestic use	192,071	221,630	289,459		
Processed	7,258	6,614	9,339		
Available for fresh use	184,813	215,016	280,120		
			annual average wholesale price per 50 lb. bag for yellow onions dollars		
Montreal	2.04	2.06	1.75	3.13	
Toronto	1.99	2.05	1.90	3.45	
Vancouver	2.62	3.45	3.26	4.04	

TABLE 8—POTATOES, ONIONS AND CARROTS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1955-59 TO 1967-68 (Concluded)

	Average 1955–59	Average 1960–64	1965–66	1966–67 (Preliminary)	1967–68 (Forecast)
			thousand pounds		
CARROTS					
Production	196,153	319,113	300,637		
Imports	80,069	77,876	76,917	72,389	
Total supply	276,222	396,989	377,554		
Fresh exports	—	27,121	39,163	57,406	
Available for domestic use	276,222	369,868	338,391		
Processed	38,277	50,581	58,000		
Available for fresh use	237,945	319,287	280,391		
			annual average wholesale price per 50 lb. bag dollars		
Montreal	1.46	1.35	1.88	1.37	
Toronto	1.58	1.46	1.75	1.56	
Vancouver	2.70	3.11	3.43	3.71	

[a]25 per cent of crop

TABLE 9—CANNED VEGETABLES AND PRODUCTS: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE, CANADA, 1955-59 TO 1967-68

	Average 1955–59	Average 1960–64	1965–66	1966–67	1967–68 (Forecast)
			thousand pounds		
GREEN AND WAX BEANS					
Stocks at July 1	17,724	13,404	21,532	10,688	20,532
Production	54,079	69,766	81,250	109,343	
Total supply	71,803	83,170	102,782	120,031	
Exports	—	6,963	26,107	29,572	
Stocks at June 30	17,919	14,241	10,688	20,532	
Domestic disappearance	53,884	61,966	65,987	69,927	
			minimum price for processing dollars per ton		
Ontario	105.00	105.80	107.50	110.00	110.00
			acreage for processing		
Canada[a]	10,004	16,782	23,730	25,110	29,000
			thousand pounds		
CORN					
Stocks at July 1	33,067	35,202	25,516	19,693	28,113
Production	80,302	93,284	99,167	115,827	
Imports	4,466	1,126	1,705	4,647	
Total supply	117,835	129,612	126,388	140,167	
Exports	903	5,459	8,059	13,226	
Stocks at June 30	34,316	33,799	19,693	28,113	
Domestic disappearance	82,616	90,354	98,636	98,828	
			minimum price for processing dollars per ton		
Ontario	25.60	26.00	27.00	28.00	29.00
			acreage for processing		
Canada[a]	39,154	38,552	40,210	45,810	44,480

TABLE 9—CANNED VEGETABLES AND PRODUCTS: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE, CANADA, 1955-59 TO 1967-68 (Concluded)

	Average 1955–59	Average 1960–64	1965–66	1966–67	1967–68 (Forecast)
			thousand pounds		
PEAS					
Stocks at July 1	47,554	24,803	23,577	37,696	23,486
Production	110,538	109,855	137,810	93,599	
Imports	1,189	499	84	54	
Total supply	159,281	135,157	161,471	131,349	
Exports	1,686	1,804	3,148	1,275	
Stocks at June 30	44,267	24,804	37,696	23,486	
Domestic disappearance	113,328	108,549	120,627	106,588	
			minimum price for processing dollars per ton		
Ontario (tenderometer reading 0–80)	—	—	175.00	175.00	180.25
			acreage for processing		
Canada[a]	50,944	52,358	58,390	55,940	58,290
			thousand pounds		
TOMATOES					
Stocks at July 1	18,116	19,548	5,574	12,542	22,103
Production	80,995	95,044	101,381	93,186	
Imports	20,145	18,830	27,882	33,861	
Total supply	119,256	133,422	134,837	139,589	
Exports	106	105	n.a.	n.a.	
Stocks at June 30	19,238	17,706	12,542	22,103	
Domestic disappearance	99,912	115,611	122,295	117,486	
			minimum price for processing dollars per ton		
Ontario, No. 1	39.70	41.50	45.00	48.95	50.00
			acres		
Contracted acreage					
Ontario	30,866	21,878	20,920	23,460	23,790
Canada	38,424	25,178	21,450	24,890	25,640
			thousand pounds		
TOMATO JUICE					
Stocks at July 1	39,446	51,684	48,802	73,595	33,709
Production	146,968	197,759	227,477	148,573	
Imports	28,703	12,694	7,382	9,174	
Total supply	215,117	262,137	283,661	231,342	
Exports	2,371	11,781	18,223	16,344	
Stocks at June 30	46,702	49,441	73,595	33,709	
Domestic disappearance	166,044	200,915	191,843	181,289	
			thousand pounds		
TOMATO PASTE, PULP AND PUREE					
Stocks at July 1	6,952	5,134	2,946	3,020	
Production	5,998	3,779	[b]	[b]	
Imports	24,504	26,075	39,780		
Total supply	37,454	34,988	42,726		
Exports	30	n.a.	—	—	
Stocks at June 30	6,575	5,074	3,020		
Domestic disappearance	30,849	29,914	39,706		

[a]Also includes acreage for freezing.
[b]Not available.

TABLE 10—PRODUCTION OF FROZEN VEGETABLES AND FRUITS, CANADA, 1955-59 TO 1967

	Average 1955–59	Average 1960–64	1965	1966 (Preliminary)	1967 (Forecast)
			thousand pounds		
FROZEN VEGETABLES					
Asparagus	n.a.	510[d]	590	734	
Broccoli	n.a.	1,738[b]	1,585	2,089	
Brussel's sprouts	n.a.	2,054[b]	1,181	1,463	
Beans, green	3,008	8,443	11,747	13,125	
Beans, wax	414	1,216	1,837	1,965	
Corn	5,172	10,540	14,818	18,275	
Corn-on-cob	262[d]	1,016	1,571	2,093	
Peas	22,725	37,209	53,145	49,917	
Other vegetables	2,783	8,070[d]	13,542	16,813	
Total	34,364	70,796	100,016	106,474	
			thousand pounds		
FROZEN FRUITS					
Apples	2,258	4,248	9,578	7,919	
Blueberries	3,034	4,532	8,336	12,287	
Cherries	4,513	7,721	9,696	5,946	
Peaches	381[b]	643[b]	782	660	
Plums	354[b]	597[a]	869	875	
Raspberries	7,022	8,368	12,334	12,136	
Rhubarb	213[c]	619	1,258	720	
Strawberries	10,468	14,131	8,444	18,237	
Other fruits	717	729[d]	974	1,254	
Total	28,960	41,588	52,271	60,034	

[a]1 year average only.
[b]2 year average only.
[c]3 year average only.
[d]4 year average only.

TABLE 11—FROZEN VEGETABLES AND FRUITS: SUPPLIES AND DISTRIBUTION, CANADA, 1963-64 TO 1967-68

	1963–64	1964–65	1965–66	1966–67 (Preliminary)	1967–68 (Forecast)
			thousand pounds		
VEGETABLES					
Stocks at June 1	34,872	35,945	37,287	35,754	34,205
Production	64,651	80,181	100,589	108,187	
Imports[a]	10,322	5,862	6,377	6,550	
Total supply	109,845	121,988	144,253	150,491	
Exports	11,412	10,208	27,228	20,649	
Stocks at May 31	35,945	37,287	35,754	34,205	
Domestic disappearance	62,488	74,493	81,271	95,637	
			thousand pounds		
FRUITS					
Stocks at June 1	16,965	16,511	25,299	22,329	21,470
Production[b]	36,734	51,365	43,935	47,747	
Imports[c]	15,143	17,679	25,433	17,681	
Total supply	68,842	85,555	94,667	87,757	
Exports[b]	525	416	713	568	
Stocks at May 31	16,511	25,299	22,329	21,470	
Domestic disappearance	51,806	59,840	71,625	65,719	

[a]Excluding frozen potato products.
[b]Excluding frozen blueberries.
[c]Excluding frozen citrus juices.

TABLE 12—MAPLE SUGAR AND SYRUP: PRODUCTION IN CANADA, BY PROVINCE, 1955-59 TO 1967-68

	Average 1955-59	Average 1960-64	1965	1966 (Preliminary)	1967 (Forecast)
	thousand gallons, syrup equivalent				
Canada	2,577	2,549	2,254	3,226	2,504
Nova Scotia	6	4	4	6	6
New Brunswick	20	12	16	14	11
Quebec	2,283	2,281	2,046	2,892	2,262
Ontario	268	252	188	314	225

TABLE 13—MAPLE SUGAR AND SYRUP: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1955-59 TO 1967-68

	Average 1955-59	Average 1960-64	1965	1966	1967 (Forecast)
	thousand gallons, syrup equivalent				
Production	2,577	2,549	2,254	3,226	2,504
Imports	9	1	—	—	
Total supply	2,586	2,550	2,254	3,226	
Exports	1,195	1,283	1,264	1,437	
Available for domestic use	1,391	1,267	990	1,789	
			dollars		
Farm prices, maple syrup per gallon	3.84	4.01	4.29	4.46	
Farm prices, maple syrup per pound	0.46	0.52	0.59	0.61	

TABLE 14—HONEY: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1955-59 TO 1967-68 (CROP YEAR, JULY 1 TO JUNE 30)

	Average 1955-59	Average 1960-64	1965-66	1966-67 (Preliminary)	1967-68 (Forecast)
	thousand pounds				
Stocks at July 1	5,948	8,523	9,330	11,411	13,163
Production	28,078	35,360	49,157	44,502	39,000
Imports	4,512	2,377	3,787	4,558	
Total supply	38,538	46,260	62,274	60,471	
Exports	586	4,327	7,671	7,339	
Available for domestic use	37,952	41,933	54,603	53,132	
Stocks at June 30	7,535	8,528	11,411	13,163	
Domestic disappearance	30,417	33,405	43,192	39,969	
			dollars		
Average farm price per lb	0.18	0.17	0.18	0.19	

SPECIAL CROPS

SUGAR BEETS

Situation

The 1967 sugar beet acreage for harvest in Canada is estimated at 84,600 acres, about 3,400 acres above 1966 but somewhat below that of 1965. Acreage in each of Quebec, Manitoba and Ontario is up in 1967, more than offsetting a decline in Alberta harvested acreage. The average yield is expected to be lower than that of 1966 in producing areas other than Ontario, with the result that total beet production may be somewhat below that of 1966 in spite of the increased acreage.

On a regional basis, the expected sugar requirements of the Prairies again determined contracted acreage in Alberta and Manitoba, where processing capacity is adequate to serve the needs of this market. In Ontario the sugar beet company announced that it would close the factory unless 20,000 acres of sugar beets were contracted. However, that acreage was contracted and the factory operated. This was the second successive year in which Ontario showed a substantial increase in both contracted and harvested acreage. In Quebec the harvested acreage showed little change from average levels.

Returns for sugar beets in Canada are dependent on market prices for sugar and in years of low prices, on any government support program. Through this arrangement Canadian sugar users obtain supplies at world prices and Canadian sugar beet growers are largely insulated from the vagaries of the world sugar market.

According to data published by the International Sugar Council, world production and stocks of sugar are still large in comparison with world consumption. Prices for that portion of sugar which is traded on the free market have continued at or near record low levels throughout most of the past 12 months. It has been announced that the United Nations Sugar Conference will reconvene in April, 1968 for purposes of negotiating a new International Sugar Agreement.

On February 21, 1967, the Minister of Agriculture announced that the 1967 sugar beet crop would be supported at a national level of $15.50 per standard ton (250 pounds of refined sugar). This compares with the support level of $14.35 for the 1966 crop.

Outlook

If there is no reduction in available refining capacity in sugar beets and if Alberta harvested acreage returns to the level of 1966, total harvest acreage in 1968 may approach 90,000 acres.

As there is little likelihood of developments in the world market leading to higher prices in the near future, the return for sugar beets will continue to be determined by the combined effect of contracts negotiated by growers, provincial policies and federal support levels.

DRY PEAS

Situation

The 1967 acreage of dry peas in Canada, including seed peas, dropped nearly 14,000 acres to 47,400 acres due to a decline in Manitoba. The combined acreage in British Columbia and Alberta, which is mostly for seed production, increased by 1,500 acres over 1966, the increase in Alberta more than offsetting a decline in British Columbia. Acreage in Quebec and Ontario increased slightly to 4,700 acres.

Manitoba continues to be the major supplier of dry peas. Good growing conditions and excellent harvest weather in that Province have resulted in a higher yield and higher quality of peas than in 1966.

The total crop for Canada is expected to be about 990,000 bushels compared with about 1,170,000 bushels in 1966. There was little carryover for the second year in a row. September prices for export, however, were down considerably from last year in both Canada and the United States. Trade sources report larger crops than last year in the U.S.A. and other producing countries.

Present Canadian production of dry peas is almost entirely of the yellow varieties for soup, as they are the principal type that can be grown profitably. The research program on peas has recently been changed to include the development of new varieties of the green, blue and marrowfat types adapted to Canadian conditions. Success in this program would open the possibility of capturing a portion of the substantial export market for such peas.

Outlook

While the market is not as strong as it was a year ago, long-term prospects are that total marketings and prices for Canadian peas will continue close to levels of recent years. The trends of declining domestic use and increasing exports are expected to continue.

DRIED BEANS

Situation

The 1967 bean acreage is down by 12,000 acres to 106,000 acres reversing the rising trend of recent years. Virtually all of the acreage is in southwestern Ontario. Yields were also lower this year and total production is forecast at 1,500,000 bushels, compared with over 2,320,000 bushels in 1966.

Domestic consumption is increasing slowly, requiring about 1,400,000 bushels anually. The quantity available for export, including carryover, is expected to be around 200,000 bushels, much under last year's exports of over 1 million bushels.

Few exports were made in the early months of the 1966-67 crop year. However, towards the end of the year commercial sales and over 3,800 metric tons (140,000 bushels) for the World Food Program nearly exhausted supplies. Prices rose during 1967 and reached $5.70 per bushel to producers at mid-October. Britain continued as the major export market.

United States production is estimated to be down, at between 6.7 and 7.5 million bushels, little more than sufficient to meet expected U.S. domestic requirements in 1967-68. U.S. mid-October prices were firm at about $5.00 per bushel.

Outlook

Market prospects are excellent but Canadian supplies available for export are considerably below the expected commercial market and Food Aid Program demand. Prices to growers are expected to be higher than those received for the 1966-67 crop.

Demand in 1968-69 is expected to continue upward, calling for a moderate increase in production.

TOBACCO

Situation

The 1967 Canadian tobacco acreage of 140,500 acres was 8 per cent higher than in 1966. Acreage of burley tobacco in 1967, grown only in Ontario, consisted of 2,422 acres with a production of approximately 5 million pounds. Cigar tobacco, grown only in Quebec, showed a further significant reduction in 1967 with an area of 2,050 acres, compared with 2,554 and 3,108 acres in 1966 and 1965 respectively. Part of the 1967 reduction in cigar tobacco acreage was due to unfavorable transplanting conditions. Production of cigar tobacco in 1967 amounted to 3 million pounds.

Flue-cured tobacco acreage attained record levels in 1967 with a total of 135,300 acres as a result of increased acreages in all of the producing areas. Ontario, the major flue-cured production area, had 128,000 acres in 1967, compared with 117,500 acres in 1966, 86,900 acres in 1965 and an average of 108,800 acres for the period 1955 to 1964. The Ontario increase was due to the Ontario Flue-Cured Tobacco Growers' Marketing Board establishing a 1967 allotment of 138,812 acres, which is 91 per cent of the Basic Tobacco Acreage. This allotment was established to reach a production target of 238 million pounds, green weight, based on a provision for domestic usage and stock replenishment of 164 million pounds and an export of 74 million pounds, green weight. The export calculation included an arrangement between United Kingdom buyers and Ontario growers for the purchase of 67.5 million pounds, green weight, from the 1967 crop. The arrangement was subject to satisfactory quality and prices and a planned production in keeping with the sharply increased demand. An important part of the 1967 crop planning negotiation was an agreement to convert the production poundage target into acreage allotment through use of a mathematical formula. The formula takes into account all important variables such as yield range and proportionate under-plantings.

The preliminary forecast of the total production of the flue-cured crop is 219 million pounds, green weight, compared with the record crop in 1966 of 223.7 million pounds. The 1967 flue-cured crop in Ontario is forecast at approximately 210 million pounds, some 28 million pounds below the Ontario target. Excessive early rainfall and some frost losses resulted in lower than normal yields per acre but the quality of the crop is excellent. The crop matured well and cured easily with a minimum amount of nondescript grade of tobacco. Continued emphasis on technical innovations and mechanization has eased the problem of availability of labor on tobacco farms. Bulk curing kilns were successfully tested in 1967 and results indicate comparable leaf quality at reduced labor costs.

In spite of further increases in retail prices, cigarette production, as indicated by the sales of excise revenue stamps, continues to increase and the annual rate of production is now near 48 billion cigarettes. The rate of increase appears to have tapered off after two years of increases of the order of 3 billion cigarettes annually. The increase is estimated at 1.6 billion cigarettes in 1967. The actual volume of redried flue-cured tobacco taken for manufacture has grown from 111.2 million pounds in 1961 to 125 million in 1966 and an estimated 128 million in 1967.

On the basis of current domestic usings, or consumption, stocks of aged redried flue-cured tobacco,

as of December 1967, are expected to be sufficient for slightly more than 11 months' supply. This is an increase of about one month's supply over stocks held a year ago in spite of a record 1966 crop and substantially increased imports.

Based on preliminary reports, exports were 31.2 million pounds, redried weight, in the first five months of 1967 compared with 27.2 million pounds in the same period in 1966. These figures include stems, etc. not previously reported. Although final figures are not yet available, it is expected that record flue-cured export levels were reached in the 1966-67 shipping season. On the world market, stocks of Rhodesian flue-cured tobacco continue to accumulate and are expected to rise to 250-300 million pounds for the 1968-69 marketing season. The United States situation indicates a heavy supply of flue-cured tobacco as a result of near record yields of 2,034 pounds per acre. United States' exports have increased since 1965 due to the Rhodesian situation, expanded world cigarette consumption and the U.S. subsidy on tobacco exports.

Outlook

With the continued upward trend in the total consumption of cigarettes in Canada and in the volume of flue-cured tobacco manufactured, domestic requirements will increase to at least 131 million pounds of aged redried tobacco in 1968. Similar forecasts call for over 133 million pounds in 1969 and 136 million pounds in 1970.

United Kingdom buyers continue to indicate a desire to purchase significantly greater volumes of Canadian tobacco in 1967-68 and subsequent years. In addition, Canada is expected to continue to supply a number of other countries in keeping with the record international demand for certain grades of high quality leaf. Canadian exports are forecast at 66.6 million pounds redried weight, or 74 million pounds green weight equivalent, in the 1967-68 shipping season and could exceed this figure due to the high quality of the 1967 crop.

Although there has been a slight increase in stocks of flue-cured tobacco for manufacture, there appears to be room for a further increase in production in 1968. The minimum domestic requirement for manufacture in 1969-70 is forecast at 136 million pounds, redried weight, or 151 million pounds, green weight, from the 1968 flue-cured crop. To provide for this requirement and an export of at least 75 million pounds, green weight, will require a minimum of 226 million pounds, green weight, in 1968. In addition to this, 12 to 13 million pounds, green weight, will be required for each month of stock replenishment. The potential for increasing Canada's tobacco export appears to be good but actual increases will depend upon the available supplies in Canada, the disposition of the Rhodesian stocks and the price of U.S. flue-cured tobacco in the world market. If exports are to exceed 75 million pounds, green weight, provision will have to be made to produce a correspondingly larger crop in 1968.

TABLE 1—SUGAR BEET ACREAGE AND PRODUCTION, CANADA, 1955-59 TO 1967-68

	Average 1955–59	Average 1960–64	1965–66	1966–67	1967–68 (Forecast)
			acres		
Canada	86,538	90,453	85,023	81,272	84,621
Quebec	5,609	8,937	9,257	8,418	9,000
Ontario	23,504	15,763	10,950	11,925	15,058
Manitoba	20,887	25,139	25,917	23,045	26,880
Alberta	36,538	40,614	38,899	37,884	33,683
			thousand tons		
Production (Canada)	1,099	1,179	1,142	1,166	1,093

TABLE 2—SUPPORT LEVEL AND AVERAGE RETURNS FOR SUGAR BEETS, 1958-59 TO 1967-68

	Support Level	Returns from Processors	Federal Payment	Provincial Payment	Total Returns
		dollars per standard ton[a]			
1958–59	93%	11.94	1.96	—	13.90
1959–60	93%	11.62	2.51	—	14.13
1960–61	14.23/270 lbs.	11.77	1.40	—	13.17
1961–62	13.18/250 lbs.	11.62	1.93	0.13	13.68
1962–63	13.72	18.64	—	—	18.64
1963–64	13.72	18.73	—	—	18.73
1964–65	13.72	11.62	3.15	—	14.77
1965–66	14.35	10.78	6.38	—	17.16
1966–67	14.35				
1967–68	15.50				

[a]Equivalent to 250 pounds of refined sugar.

TABLE 3—DRY PEAS: ACREAGE IN CANADA, BY PROVINCE, 1955-1967

	Average 1955–59	Average 1960–64	1965	1966	1967 (Forecast)
			acres		
Canada	76,600	60,420	55,400	61,300	47,400
Quebec	3,360	2,100	3,200	1,400	1,700
Ontario	5,940	2,700	2,500	2,500	3,000
Manitoba	50,720	41,700	36,000	46,000	30,000
Saskatchewan	2,780	3,000	3,000	1,000	800
Alberta	8,080	7,740	8,000	8,000	10,000
British Columbia	5,720	3,180	2,700	2,400	1,900

TABLE 4—DRY PEAS: SUPPLIES, DISTRIBUTION AND PRICES, CANADA, 1955-56 TO 1967-68 (CROP YEAR, AUGUST 1 TO JULY 31)

	Average 1955–59	Average 1960–64	1965–66	1966–67	1967–68 (Forecast)
			thousand bushels		
Production	1,264	1,130	1,244	1,169	990
Imports	73	67	63		
Total supply	1,337	1,197	1,307		
Exports	330	281	721		
Available for domestic use	1,007	916	586		
			dollars per bushel		
Average farm price	2.18	2.22	2.14		

TABLE 5—DRIED BEANS: ACREAGE, PRODUCTION, DISTRIBUTION AND PRICES IN CANADA, 1955-59 TO 1967-68 (CROP YEAR, AUGUST 1 TO JULY 31)

	Average 1955–59	Average 1960–64	1965–66	1966–67	1967–68 (Forecast)
			acres		
Canada	67,720	68,060	85,800	118,000	106,000
Quebec	1,400	900	800	1,000	1,000
Ontario	66,320	67,160	85,000	117,000	105,000
			thousand bushels		
Canada					
Production	1,167	1,416	1,986	2,300	1,500
Imports	132	120	101	106	
Total supply	1,299	1,536	2,087	2,406	
Exports	117	402	689	1,000	
Available for domestic use	1,182	1,134	1,398	1,406	
			dollars per bushel		
Average farm price	3.78	4.10	4.38		

TABLE 6—FLUE-CURED TOBACCO: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE; CANADA, 1955-59 TO 1967-68, (CROP YEAR OCTOBER 1 - SEPTEMBER 30)

	Average 1955–59	Average 1960–64	1965–66	1966–67	1967–68 (Forecast)
			thousand pounds redried weight		
Stocks at beginning	141,779	176,884	165,772	139,836	153,500
Production	134,279	163,057	143,267	201,333	197,100
Imports	210	51	101	5,400	5,000
Total supply	276,268	339,992	309,140	346,569	355,600
Exports	33,174	41,361	45,290	65,069	66,660
Taken for manufacture	104,658	115,372	125,014	128,000	131,000
Carryover at end of year	138,436	183,259	139,836	153,500	158,000
			cents per pound		
Average farm price	48.51	51.19	64.58	71.34	—
			acres		
Acreage Maritimes	5	435	776	923	1,050
Quebec	5,864	5,383	5,877	5,742	6,215
Ontario	110,467	107,141	86,870	117,548	128,000
Other provinces	57	—	—	—	—
Canada	116,393	112,959	93,523	124,213	135,265

Note: 100 pounds, green weight, flue-cured tobacco = 90 pounds redried weight; to convert the above data to green weight, divide each figure by 0.9.

TABLE 7—BURLEY TOBACCO: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE, CANADA, 1955-59 TO 1967-68 (CROP YEAR OCTOBER 1-SEPTEMBER 30)

	Average 1955–59	Average 1960–64	1965–66	1966–67	1967–68 (Forecast)
			thousand pounds redried weight		
Stocks at beginning	7,782	9,152	7,739	6,109	6,324
Production	7,490	4,748	3,584	4,936	5,000
Imports	—	—	—	neg.	—
Total supply	15,272	13,900	11,081	11,045	10,824
Exports	1,656	1,905	2,148	1,895	1,800
Taken for manufacture	4,536	3,898	2,823	2,826	2,900
Carryover at end of year	9,080	8,097	6,110	6,324	6,124
			cents per pound		
Average farm price	33.08	39.56	44.70	51.68	—
			acres		
Acreage: Ontario	5,545	2,946	1,939	2,790	2,422
Quebec	59	34	—	—	—

Note: 100 pounds green weight, burley tobacco = 89 pounds redried weight.

TABLE 8—DARK TOBACCOS: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE, CANADA, 1955-59 TO 1967-68 (CROP YEAR OCTOBER 1-SEPTEMBER 30)

	Average 1955–59	Average 1960–64	1965–66	1966–67	1967–68 (Forecast)
			thousand pounds redried weight		
Stocks at beginning	2,046	1,657	1,904	1,856	1,684
Production	948	1,087	1,132	1,105	
Imports	—	—	—	—	
Total supply	2,994	2,744	3,036	2,961	
Exports	64	n.a.	n.a.	n.a.	—
Taken for manufacture	998	1,001	1,180	1,277	
Carryover at end of year	1,932	1,743	1,856	1,684	
			cents per pound		
Average farm price	29.80	34.81	42.46	49.54	
			acres		
Acreage: Ontario	490	538	411	300	304
Quebec	—	7	—	—	—
Prince Edward Island	—	—	—	—	2

TABLE 9—CIGAR TOBACCO: SUPPLIES, DISTRIBUTION, PRICES AND ACREAGE; CANADA, 1955-59 TO 1967-68 (CROP YEAR OCTOBER 1-SEPTEMBER 30)

	Average 1955–59	Average 1960–64	1965–66	1966–67	1967–68 (Forecast)
			thousand pounds redried weight		
Stocks at beginning	10,623	12,254	11,169	11,071	8,265
Production	5,320	7,000	6,742	3,914	3,000
Imports	1,656	2,443	2,357	2,080	2,400
Total supply	17,599	21,697	20,268	17,065	13,665
Exports	57	n.a.	n.a.	n.a.	n.a.
Taken for manufacture	7,256	8,923	9,197	8,800	8,800
Carryover at end of year	10,286	12,774	11,071	8,265	5,865
			cents per pound		
Average farm price	23.77	26.64	25.26	28.81	
			acres		
Acreage: Quebec	3,638	3,492	3,108	2,554	2,050

CEREAL, OILSEED AND FORAGE CROP SEEDS

PEDIGREED CEREAL AND OILSEED CROP SEEDS

Situation

Wheat—Acreage of pedigreed spring wheat in 1967 was 22 per cent larger than in 1966. Production is forecast at about 9 million bushels, only 8 per cent more than in 1966 because of generally lower yields in Saskatchewan and Alberta. The substantial increase in Manitou again highlighted spring wheat seed production. This variety occupied 93 per cent of the spring wheat acreage inspected and production is forecasted at 8.3 million bushels. The increase appears to have been mainly at the expense of Selkirk and Thatcher. The combined acreage in 1967 of Selkirk, Thatcher, Pembina and Canthatch was less than 6 per cent of the spring wheat acreage inspected and production is forecasted to be only about 500,000 bushels. In 1966, production of Selkirk was estimated at 1.2 million bushels and Thatcher at nearly 1 million bushels. The quality of the 1967 pedigreed crop is good in nearly all areas and germination is expected to be generally high. Winter wheat acreage increased in both Ontario and Alberta. Genesee accounted for 9,500 acres and about 500,000 bushels in Ontario followed by Talbot with about 3,500 acres. Winalta was the main variety in Alberta with nearly 12,000 acres inspected for a forecasted production of 437,000 bushels. Durum wheat acreage and production were down very significantly from a year ago. Nearly all production was Stewart 63, forecast at about 75,000 bushels compared to about 130,000 bushels in 1966.

Oats—Both inspected acreage and forecast production of oats were smaller in 1967 than in 1966. There were reductions in nearly all provinces but the decrease in both acres and production was most pronounced in Ontario. Growing conditions were not favorable in Ontario and the crop is generally of poor quality—being lightweight with a heavy clean-out expected. While yields were fairly good in Quebec, the quality is only fair to good. Quality is also poor in the Maritimes. Garry was the main variety, forecast at about 1.7 million bushels and grown on 25,000 acres but its relative position dropped somewhat. In 1966, Garry accounted for about half of the pedigreed oat crop while in 1967 it represented about 40 per cent of production. The variety Harmon, introduced in 1966, and mainly produced in the Prairies, was grown on 15,000 acres or 22 per cent of the total for a forecast production of 900,000 bushels. There were five new varieties in production for the first time in 1967, *viz.*—Kelsey with a forecasted production of 483,000 bushels, Sioux forecast at 53,000 bushels and Grizzly, Fraser and Cabot for a combined production of about 17,000 bushels.

Barley—Barley acreage and production decreased considerably from the large crop in 1966 to more normal levels in 1967. The interest in Western Canada in the new variety Conquest, was mainly responsible for the large acreage in 1966. Notwithstanding a drop in production of pedigreed seed of Conquest from 2.5 million bushels last year to about 785,000 bushels in 1967, it was still the main variety and occupied 40 per cent of the inspected acreage. Production of Herta is forecasted at about 500,000 bushels compared to 385,000 bushels a year ago. There was a substantial production of the new variety Galt in Southern Alberta and Western Saskatchewan, its area of adaptation. Other main varieties were Keystone with forecasted production of 85,000 bushels, Gateway 63, 80,000 bushels.

Oilseed Crops—Pedigreed flax seed acreage and forecast production in 1967 were larger than a year ago by about 25 per cent and 10 per cent respectively. The increase in acreage occurred in Manitoba which produced 245,000 bushels or 57 per cent of the total crop. Production in Saskatchewan and Alberta was about the same as last year. Noralta was the principal variety produced with production forecasted at 359,000 bushels followed by Redwood 65 with 37,000 bushels. In 1966, production of Noralta was placed at 124,000 bushels and Redwood 65 at 8,000 bushels. Forecasted production of Redwood in 1967 at 12,000 bushels is down from production of 120,000 bushels in 1966. Soybean production was less than in 1966 by about 35,000 bushels. Harosoy 63 was again the principal variety grown followed by Chippewa 64 and Hardome. Rapeseed acreage and production were larger than in 1966. There were two main varieties grown for pedigreed production—Echo on about 2,500 acres with forecasted production 2 million pounds and Target on 1,400 acres with production forecast at 1,480,000 pounds. Dry weather in Saskatchewan, as well as in Alberta, resulted in reduced yields. In Manitoba, however, yields were good at about 1,400 pounds per acre. Acreage in Alberta was about double that of a year ago.

Hybrid Corn—The acreage of hybrid corn in Ontario totaled about 10,500 acres, about the same

as the record high acreage set in 1966. Heavy rainstorms during the early growing season damaged some areas and the crop varies from poor in these areas to excellent in others.

White Beans—The inspected acreage and forecast production of white beans were slightly less than in 1966. The principal variety was Sanilac which was grown on over half the acreage followed by Seaway 65 on about 1,100 acres.

Outlook

Wheat—The supplies of pedigreed Manitou seed wheat produced in 1967 are sufficient to meet the expected domestic demand in 1968 and also to provide seed for export. There are no definite indications as yet, of the demand for Manitou in the United States. It is expected, however, that the good performance of this variety will result in an export market for Canadian grown seed but the extent of this market is contingent upon the competition from the new U.S.A. varieties. While production of the other principal varieties, such as Selkirk and Thatcher was down, the demand for seed of these varieties will be reduced because of the performance of Manitou. There was little export demand for the 1967 crop of Ontario Winter Wheat Seed. This situation may have adversely affected the plantings for 1968 pedigreed seed wheat. In spite of smaller supplies of pedigreed Durum Wheat, it is expected that there will be adequate seed to meet the usual demand.

Oats and Barley—Although there were adequate supplies of pedigreed seed oats produced in 1967, shortages of seed of some varieties are expected to develop in Eastern Canada. Production in Western Canada shifted from the variety Garry to the newer varieties, particularly Harmon, which may result in shortages in Eastern Canada of good quality Garry oats. Harmon oats appear to be in surplus in Western Canada but this variety is not an acceptable alternative for Garry in Eastern Canada. There is a fair supply of Rodney oats in Eastern Canada although they are of poor quality. Retail prices may vary between varieties but in general may be somewhat higher than in 1967. Nowithstanding smaller supplies of pedigreed barley than in the spring of 1967, no seed shortage of any of the principal varieties is expected in any area but retail prices may be slightly higher than they were in 1967.

Oilseed Crops, Hybrid Corn and White Beans—Supplies of pedigreed seed of flax, soybeans, rapeseed, hybrid corn and white beans should be adequate for domestic needs in 1968.

FORAGE CROP SEEDS

Situation

Alfalfa—The alfalfa seed crop is expected to be substantially larger than in 1966 due to improved yields in Western Canada. The crop in Ontario, however, will be very small because of heavy vegetative growth and poor seed set. There were 7,600 acres in Certified varieties with Vernal accounting for 4,500 acres, Rambler 2,000 acres and Beaver 900 acres.

Alsike Clover—Alsike clover seed production is forecast at about 8.5 million pounds, 17 per cent smaller than in 1966. Production was confined almost entirely to Alberta and the Peace River District of British Columbia where, despite dry weather, yields were good. The smaller production was mainly due to reduced acreage in all areas but particularly in the Edmonton district.

Red Clover—The production of double-cut clover seed in Eastern Canada, where most of the crop is grown, is expected to be slightly smaller than in 1966. The crop of single-cut red clover seed in the Prairie Provinces and British Columbia may also be smaller than a year ago when a record crop of over 10 million pounds was produced. Yields were generally good but acreage was less than in 1966. There were seven unlicensed varieties of single-cut red clover in production of seed for export amounting to 1,500 acres.

Sweet Clover—It is expected that sweet clover seed production will be considerably smaller than average with the crop forecasted at about 5 million pounds, the smallest since records have been kept. Reports indicate that growers are still holding a considerable quantity of seed from the 1966 crop.

Bird's-Foot Trefoil—Growing conditions were not favorable for seed production of bird's-foot trefoil in Ontario. The 1967 seed crop probably will be less than half of last year's production of about 700,000 pounds.

Timothy—Timothy seed production is forecast to be 17 million pounds. This is about an average crop but is more than 6 million pounds smaller than the record crop of 1966. While production was smaller, the carryover in dealers' and growers' hands was at a record high level bringing total supplies to about 24 million pounds. The Climax variety, forecasted at 6,260,000 pounds, accounted for about 37 per cent of the total crop. A year ago, Climax accounted for about half of the production. Ninety-six per cent of the Climax acreage is in the

Prairie Provinces. A substantial decrease in acreage, together with dry weather which reduced yields in Saskatchewan and Alberta, were major factors affecting Climax production. There were 34,000 acres inspected compared with 44,000 acres in 1966. The production of unlicensed and private varieties of timothy being multiplied mainly for export under the OECD Herbage Seed Scheme is forecast at about 1.5 million pounds produced mainly in Alberta and Manitoba. There were 18 unlicensed varieties in production on nearly 6,500 acres.

Brome—Bromegrass seed production is forecast at 4,030,000 pounds—13 per cent less than in 1966 and one of the smallest in years. The principal reduction occurred in Alberta where dry weather affected seed yields. Acreage of pedigreed varieties in 1967 amounted to about 6,000 acres compared with 5,000 acres in 1966. There are three main varieties with production forecast at about 500,000 pounds of Carlton, 325,000 pounds of Saratoga and 100,000 pounds of Red Patch.

Crested Wheatgrass—Production of crested wheatgrass seed is forecast at 855,000 pounds, about 12 per cent less than a year ago. This is the fourth consecutive year that production has declined. Production of pedigreed varieties amounted to about 600,000 pounds.

Meadow fescue—Meadow fescue seed production, nearly all produced in Manitoba, is forecast at 5,820,000 pounds, practically unchanged from 1966. Production of Certified Ensign is forecast at about 400,000 pounds. There was a small production of the new variety Trader. There were 10 unlicensed varieties in production for export, mainly under OECD, amounting to about 1,100 acres.

Creeping red fescue—Forecasted production of creeping red fescue is 10,580,000 pounds—31 per cent less than in 1966. Reduced acreage, together with dry weather in the Peace River Districts of Alberta and British Columbia, accounted for the smaller production. There were four unlicensed varieties in production for export with total acreage about 650 acres.

Russian wild ryegrass—Production of Russian wild ryegrass is forecast at 260,000 pounds compared with 200,000 pounds in 1966. About three-quarters of the production was in Alberta and the balance in Saskatchewan.

Other Grass Seed Crops—Production in 1967 included 140,000 pounds of pubescent wheatgrass, 125,000 pounds of Norlea perennial ryegrass, 34,000 pounds of Chinook orchard grass—all produced in Alberta, and about 20,000 pounds of Chief Intermediate wheatgrass in Manitoba.

Outlook

The market prospects for forage seeds in general are poor and with a few exceptions prices to growers are lower than in 1966, in some instances the lowest in 30 years. Retail prices for the 1968 planting season are expected to be as low as or lower than a year ago for both common and Climax timothy, meadow fescue, creeping red fescue, alsike clover, sweet clover and single cut red clover. Alfalfa, double-cut red clover and brome grass retail prices will probably be at about last year's relatively high levels while bird's-foot trefoil will be well above last year's price.

The general overall picture for forage seeds from the standpoint of the Canadian seed producer is not bright due to low prices resulting in low returns per acre and declining export markets. It is expected, therefore, that acreage for seed production will be still further reduced in 1968 which in turn may result in some upswing in prices to growers and at retail levels. However, acreage under the OECD Herbage Seed Scheme is expected to increase with relatively higher prices than for other export seed.

As European markets decline, new markets are being sought. Exports to Japan are expected to increase over the next few years partly as a result of the Seed Trade Mission to that country in April, 1967. The Japanese were particularly interested in Canadian varieties of timothy, meadow fescue, orchard grass, brome grass, red clover, alsike clover and alfalfa.

As a result of the Kennedy Round negotiations there will be tariff reductions between Canada and the United States on forage seeds. These reductions will be on seeds that Canada exports to the United States, including alsike clover, red clover, sweet clover, creeping red fescue and timothy, as well as on those kinds that Canada imports from the United States. Full effect of these reductions, however, will not be felt until the tariff changes have been completely implemented.

Alfalfa—Although Canadian production is expected to be well above last year's crop, it will not meet domestic needs and U.S.A. grown seed will be imported to meet planting requirements. The demand in Canada continues to be strong for Certified seed of Vernal and Flemish type varieties. Good quality seed of these varieties is available in the United States. Unadapted common alfalfa seed may be imported since prices of Certified seed are relatively

high in Canada. By regulation, this seed must be stained 5 per cent red.

Alsike Clover—As usual, production is far in excess of domestic needs and most of the crop is in surplus for the export market. While the market is not strong, exporters have had some success in moving the surplus but at low prices.

Red Clover—In spite of a decreasing demand for double-cut red clover by Canadian farmers, the domestic supply will be inadequate for planting needs. It is possible that English red clover seed will be imported in view of a good crop in Britain and the relatively high prices prevailing in both Canada and the United States. Supplies of single-cut red clover seed are much in excess of domestic needs and in spite of a smaller crop, there are large supplies available for export. However, the export market is very inactive and seed is difficult to sell. There is some fear, moreover, that this situation may not improve in the future as the sale of Canadian commercial single-cut red clover seed (altaswede) is finding increasing buyer resistance in the European countries that in the past have purchased this seed.

Sweet Clover—There is practically no market for sweet clover seed yet but in view of the small U.S. crop and low prices in Canada, it is expected that some movement will develop. Notwithstanding a record small crop in Canada, large carryover stocks in the hands of the trade and growers have had a depressing effect on prices to growers.

Bird's-foot trefoil—Due to greatly reduced production in Canada as well as short crops in Europe, the market is very active for bird's-foot trefoil and prices have risen substantially from a year ago. Any exportable surplus will find a ready market in the United States.

Timothy—For the second consecutive year, total supplies of timothy seed are much in excess of domestic requirements. Furthermore, the United States supplies are 24 per cent higher than average and have had a definite effect on the Canadian market. Prices to growers for both commercial timothy and Climax are the lowest in many years and are expected to result in a further reduction in Climax acreage in 1968. Export demand for timothy seed is very weak and as a consequence, a larger percentage on the crop than usual is still in the hands of growers. Trade reports indicate that there have been some exports but less than a year ago.

Brome—The short crop in Canada as well as in the United States has resulted in an active market with trading at high prices. The fact that a substantial part of the Canadian crop of commercial brome contains couch grass limits the supply of good quality seed and thus is an important factor in the price increase. The price at which American produced seed can be purchased mainly determines the prices paid to growers in Canada.

Creeping red fescue—A high percentage of the Canadian production of creeping red fescue is usually surplus to Canadian needs. Although overall supplies are smaller than in 1966, there is a sizeable surplus available for export. The price to growers is low and the export market is not active. The principal factor affecting the export demand for Canadian creeping red fescue is the fact that Kentucky bluegrass produced in the Northwestern States as well as being available from Western Europe can be purchased at prices which compete with those for creeping red fescue. The United States is still increasing acreage of Kentucky bluegrass in the Northwestern States and there are indications that this competition will become more severe in the future and will continue to influence the prices paid to Canadian growers.

Meadow fescue—Supplies of meadow fescue seed are much in excess of domestic needs and prospects are poor to move much of the surplus for export.

TABLE 1—ACREAGE AND ESTIMATED PRODUCTION OF REGISTERED AND CERTIFIED WHEAT, OATS, BARLEY AND BEANS, BY PROVINCE, 1967, FOR CANADA, 1966 AND 1967

	Wheat		Oats		Barley		White Beans	
	Acres	Bushels	Acres	Bushels	Acres	Bushels	Acres	Bushels
	thousands							
Maritimes	—	12	1	60	—	18	—	—
Quebec	—	15	9	599	—	1	—	—
Ontario	13	681	23	1,749	8	471	3	89
Manitoba	150	4,522	17	864	4	212	—	—
Saskatchewan	123	3,118	7	413	9	486	—	—
Alberta	37	1,171	10	512	15	614	—	—
British Columbia	—	4	—	20	—	5	—	—
Canada 1967	323	9,523	67	4,217	36	1,807	3	89
Canada 1966	265	9,264	75	5,296	70	4,014	4	100

TABLE 2—ACREAGE AND ESTIMATED PRODUCTION OF REGISTERED AND CERTIFIED FLAX, RAPESEED AND SOYBEANS, BY PROVINCE, 1967, FOR CANADA 1966 AND 1967

	Flax		Rape		Soybean	
	Acres	Bushels	Acres	Pounds	Acres	Bushels
Quebec	335	5,835	—	—	—	—
Ontario	6	130	—	—	4,000	120,000
Manitoba	17,471	244,954	837	1,160,000	44	790
Saskatchewan	7,116	123,098	1,825	1,460,000	—	—
Alberta	5,991	91,705	1,230	860,000	—	—
Canada 1967	30,919	465,722	3,932	3,480,000	4,044	120,790
Canada 1966	25,139	395,673	3,208	2,674,450	4,543	185,960

TABLE 3—FORAGE CROP SEEDS, PRODUCTION, CANADA, SELECTED YEARS, 1955 TO 1966

	Average 1955–59	Average 1960–64	1965	1966	1967 (Forecast)
	thousand pounds				
ALFALFA					
Canada	3,109	5,001	3,160	2,139	
Ontario	590	775	1,140	843	
Manitoba	770	1,517	250	750	
Saskatchewan	600	580	200	125	
Alberta	1,050	2,045	1,500	371	
British Columbia	99	84	70	50	
ALSIKE CLOVER					
Canada	7,172	10,735	18,031	10,287	
Ontario	49	14	6	2	
Manitoba	89	44	50	20	
Saskatchewan	65	119	—	250	
Alberta	6,029	8,720	14,500	7,565	
British Columbia	940	1,838	3,475	2,450	
RED CLOVER					
Canada	9,611	10,735	10,950	13,062	
Maritimes	48	31	—	30	
Quebec	530	415	200	315	
Ontario	3,398	4,403	3,475	2,385	
Manitoba	413	403	300	1,500	
Saskatchewan	1,278	979	200	1,512	
Alberta	3,274	4,016	6,000	6,500	
British Columbia	670	488	775	820	
SWEET CLOVER					
Canada	14,983	12,694	11,330	10,053	
Ontario	549	492	330	103	
Manitoba	5,889	5,135	3,500	3,500	
Saskatchewan	3,700	2,340	1,000	1,500	
Alberta	4,416	4,144	5,000	4,100	
British Columbia	429	583	1,500	850	
TIMOTHY					
Canada	16,395	15,089	16,965	23,361	17,080
Maritimes	735	345	—	400	200
Quebec	3,316	2,298	1,500	2,500	2,300
Ontario	10,941	9,641	4,090	6,811	6,000
Manitoba	399	1,114	4,500	6,250	4,850
Saskatchewan	247	834	4,500	4,000	2,000
Alberta	621	714	2,000	3,000	1,500
British Columbia	136	143	375	400	230
BROME GRASS					
Canada	7,269	7,423	6,025	4,620	4,030
Manitoba	217	160	150	200	150
Saskatchewan	2,040	2,620	2,750	1,300	1,300
Alberta	4,891	4,501	3,000	3,000	2,500
British Columbia	121	142	125	120	80

TABLE 3—FORAGE CROP SEEDS, PRODUCTION, CANADA, SELECTED YEARS, 1955 TO 1966 (continued)

	Average 1955–59	Average 1960–64	1965	1966	1967 (Forecast)
			thousand pounds		
CRESTED WHEAT GRASS					
Canada	1,255	2,276	1,015	1,020	870
Manitoba	34	80	45	30	40
Saskatchewan	910	1,610	500	350	350
Alberta	299	545	440	600	475
British Columbia	12	41	30	40	5
CREEPING RED FESCUE					
Canada	10,392	13,216	20,600	15,300	10,580
Alberta	8,939	10,516	17,000	12,500	8,000
British Columbia	1,453	2,700	3,600	2,800	2,580
OTHER GRASSES[a]					
Kentucky Bluegrass	547	274	208	327	65
Meadow Fescue	1,650	2,992	4,655	5,740	5,930
Orchard Grass	8	20	39	36	34
Russian Wild Ryegrass	—	580	239	301	260

[a]Canada totals.

TABLE 4—FORAGE CROP SEEDS, SUPPLIES AND DISTRIBUTION, CANADA, SELECTED YEARS, 1956 TO 1967 (CROP YEAR ENDING JUNE 30)

	Average 1956–60	Average 1961–65	1965–66	1966–67	1967–68
			thousand pounds		
ALFALFA					
Stocks, beginning of year	811	1,519	2,833	1,464	1,484
Production	3,109	5,001	3,160	2,139	
Imports	3,655	2,957	3,483	4,533	
Total Supply	7,575	9,477	9,476	8,136	
Exports	524	2,025	773	536	
Available for domestic use	7,051	7,452	8,703	7,600	
ALSIKE CLOVER					
Stocks, beginning of year	1,459	3,175	1,459	3,654	3,895
Production	7,172	10,735	18,031	10,287	
Imports	2	6	3	—	
Total Supply	8,633	13,916	19,493	13,941	
Exports	5,105	8,694	13,285	8,934	
Available for domestic use	3,528	5,222	6,208	5,007	
RED CLOVER					
Stocks, beginning of year	2,176	3,351	2,679	3,904	6,423
Production	9,611	10,735	10,950	13,062	
Imports	2,303	1,385	514	529	
Total Supply	14,090	15,471	14,143	17,495	
Exports	5,969	7,923	6,683	6,233	
Available for domestic use	8,121	7,548	7,460	11,262	
SWEET CLOVER					
Stocks, beginning of year	3,880	3,076	5,663[a]	8,017[a]	6,355
Production	14,983	12,694	11,330	10,053	
Imports	3	5	—	—	
Total Supply	18,866	15,775	16,993	18,070	
Exports	12,596	11,786	8,250	10,833	
Available for domestic use	6,270	3,989	8,743	7,237	
TIMOTHY					
Stocks, beginning of year	1,560	2,084	1,230	4,621	5,077
Production	16,395	15,089	16,965	23,361	
Imports	682	2,957	3,768	649	
Total Supply	18,637	20,130	21,963	28,631	
Exports	6,384	5,343	7,808	10,314	
Available for domestic use	12,253	14,787	14,155	18,317	

TABLE 4—FORAGE CROP SEEDS, SUPPLIES AND DISTRIBUTION, CANADA, SELECTED YEARS, 1956 TO 1967 (CROP YEAR ENDING JUNE 30) (continued)

	Average 1956–60	Average 1961–65	1965–66	1966–67	1967–68
			thousand pounds		
BROMEGRASS					
Stocks, beginning of year	977	1,845	1,856	1,844	1,656
Production	7,269	7,423	6,205	4,620	
Imports	483	514	388	462	
Total Supply	8,729	9,782	8,449	6,926	
Exports	4,416	3,292	2,878	1,778	
Available for domestic use	4,313	6,490	5,571	5,148	
CRESTED WHEATGRASS					
Stocks, beginning of year	119	1,005	587	499	358
Production	1,255	2,276	1,015	1,020	
Imports	193	14	—	45	
Total Supply	1,567	3,295	1,602	1,564	
Exports	311	1,078	599	631	
Available for domestic use	1,256	2,217	1,003	933	
CREEPING RED FESCUE					
Stocks, beginning of year	1,370	6,322	998	3,052	4,371
Production	10,392	13,216	20,600	15,300	
Imports	45	47	28	9	
Total Supply	11,807	19,585	21,606	18,361	
Exports	7,680	13,230	16,421	11,005	
Available for domestic use	4,127	6,355	4,185	7,356	
MEADOW FESCUE					
Stocks, beginning of year	314	1,035	161	183	475
Production	1,650	2,992	4,655	5,740	
Imports	149	19	2	3	
Total Supply	2,113	4,046	4,818	5,926	
Exports	1,136	2,842	4,168	4,113	
Available for domestic use	977	1,204	650	1,813	

[a]Includes estimated carryover in growers' hands.

SUMMARIES OF PAPERS

AGRICULTURAL SITUATION AND OUTLOOK

In 1966, world agricultural and food production, excluding Mainland China, increased by 3 and 4 per cent respectively over 1965. The main feature of the increase in world agricultural output in 1966 was a rise of 8 per cent in grain production. For wheat, the increase of 18 per cent came mainly from the very large record output in Australia, Canada and the Soviet Union. Total world meat production increased by about 4 per cent, and there were small increases in the production of milk and eggs in 1966.

On a per capita basis, agricultural output as well as food production in the world as a whole increased by about 2 per cent but declined by 1 per cent in the developing regions. The value of world trade in agricultural products rose by 2 per cent in 1966 and the growth reflected increases both in trade volume and in price levels. As in the previous years, food imports into the developing countries continued to increase. They reached a value of $4.5 billion in 1966, exceeding the 1965 imports by 4 per cent.

The overall level of international prices for agricultural products showed little change in 1966. Prices for food declined by about 2 per cent while non-food agricultural prices increased by about 4 per cent. In the first half of 1967, the overall price level for agricultural products showed a slow rise, but remained in general below the level of the corresponding period of 1966. The prices received by farmers in 1966 generally continued to rise, although in most of the countries for which data are available the rise was smaller than a year ago. The prices paid by farmers also rose during 1966, and in about half of these countries the ratio between prices received and prices paid by farmers improved.

Farm production in Canada in 1967 declined by about 10 to 15 per cent below the record level of 1966. However, farm cash receipts from the sale of farm products may reach $4.4 billion in 1967, slightly above those of nearly $4.3 billion realized in 1966. Farm operating expenses and depreciation charges continued to advance in 1967, partly as a result of a general increase in the

level of prices paid by farmers for goods and services used on the farm. The gain in total cash receipts in 1967 is expected to be greater than the increase in farm operating expenses, so that realized farm net income from farming operations in 1967 is estimated to be slightly above the 1966 level. On the other hand, total net income from farming operations, which includes inventory changes, is expected to be down to $1.6 billion as against almost $2 billion in 1966.

Total cash receipts from farming operations are expected to be higher in 1968 than in 1967. Canadian Wheat Board participation payments may exceed the substantial amounts paid out in 1967. The strong demand for tobacco may result in a further addition to income from this source. Cattle marketings are not likely to vary significantly from those of 1967 and prices are likely to remain favorable. Milk production is not likely to change much but overall average prices may be up. Poultry meat production will likely continue to increase and prices may be up somewhat. Farm expenses are expected to continue to rise as they have in the past so that realized net income may be approximately equal to the level estimated for 1967.

Agricultural Exports

Situation

Canadian farm exports are about $1.8 billion per year, the fourth largest in the world. These exports while continuing to increase gradually from year to year, make up a declining share of total exports of all commodities. Wheat is still Canada's most important export item, making up well over half of our agricultural exports.

The importance of various markets has changed over the past decade. This has been largely due to shifts in our wheat trade. Whereas the U.K. took 31 per cent of our exports a decade ago, only 17 per cent went to that market in 1966. Likewise, during the same period the U.S. share of our exports declined from 20 to 15 per cent. The largest market growth over the past 10 years has been in the centrally planned economies of Russia, Mainland China and other Eastern European countries. These countries took 25 per cent of our exports (largely wheat) in 1966, compared with virtually none a few years ago.

While wheat is our largest export item, oilseeds have risen rapidly in recent years and are now second in importance. Wheat flour, live animals and meats and meat preparations follow in that order.

Outlook

One of the most important trade developments during the past year was the successful conclusion of the Kennedy Round of trade negotiations. These negotiations resulted in the reduction of a wide range of agricultural and industrial tariffs, a new International Grains Arrangement and a new anti-dumping code. All of these developments, together with an indication that a general economic recovery may be in the offing, should provide a favorable environment for continuing high levels of exports of all commodities.

Agricultural Inputs

While the total number of farms in Canada has been decreasing, the number and size of commercial farms with annual sales of over $5,000 has been growing rapidly in recent years. The largest increase in numbers has occurred in commercial farms with annual sales of $15,000 or over. This trend is expected to continue.

The index of all production inputs in agriculture increased from 95 in 1962 to 100 in 1966, representing a 1.2 per cent average annual rate of growth. The yearly increase in real estate inputs was 0.5 per cent; capital inputs 4.9 per cent; labor inputs declined at a rate of 4.4 per cent. In 1966 operating capital inputs represented 53 per cent of all inputs.

The long-term downward trend in the agricultural labor force was at least temporarily halted in 1967. Wage levels increased about $26 per month over the previous year. Farm workers are now covered under the Canada Pension Plan and the Unemployment Insurance Program.

Expenditures for the purchase of farm machinery and equipment increased from $382 million in 1961 to $731 million in 1966 and are expected to be about $750 million in 1967. The major trend in farm machinery purchases is towards larger machine units. In 1966 nearly 89 per cent of farms had electricity.

Expenditures on purchased feed increased by over 14 per cent in 1966. Higher transportation costs are being partially offset by the increasing use of bulk handling and automatic feeding systems. The trend towards greater specialization in production and distribution of feeds is expected to continue and lead to a replacement of small mixing plants. Feed prices in 1968 are likely to remain close to present levels.

The amount of fertilizer sold in Canada increased by more than 67 per cent between 1962 and 1966. The rise in nutrient content of fertilizers sold dur-

ing the period was even greater, amounting to annual increases of 29 per cent for nitrogen, 17 per cent for phosphorus and 10 per cent for potash. Fertilizer prices in 1968 are expected to be similar to those prevailing in 1967.

Expenditures for agricultural pesticides, particularly herbicides, increased rapidly between 1965 and 1966 and are expected to increase by about 10 per cent annually in 1967 and 1968. Among insecticides a shift has developed towards the use of less persistant chemicals to reduce residues in food products in line with national and international residue tolerances.

Total farm capital in 1966, as represented by real estate, machinery and livestock, exceeded that of 1965 by nearly 11 per cent and amounted to $19,166 million. Over 70 per cent of this amount was attributed to the value of real estate whereas in 1962 real estate represented only 65 per cent of total capital. The increase in the value of real estate was largely due to increases in land prices. Land prices in Canada are estimated to have risen at an average rate of over 11 per cent per year during the 1962-66 period. The annual rate of increase for the period ranged from 6 per cent in the Maritime Provinces to 14 per cent for the Prairie Provinces. Total farm debt in 1965 was estimated to represent about 17 per cent of total farm investment in real estate, machinery and livestock. Little change is expected in this debt ratio for 1967 or 1968 due to the increased value of land. The amount of farm credit extended in 1966 is presently estimated to have been about $2,025 million and for 1967 about $2,175 million. While the amount of credit extended has been steadily increasing, the rate of increase has ben declining since 1964.

During 1967, about 33,000 farmers in six provinces paid nearly $5 million for crop insurance coverage of over $58 million. Further expansion is expected in 1968. Increased specialization and commercialization on farms is presently resulting in the increased purchasing of specialized services such as soil testing, artificial insemination, record keeping and management analysis, custom work and other services.

Prices of inputs in total are expected to rise in 1968 by about the same percentage as in 1967. Although feed and fertilizer prices are likely to be at about 1967 levels and the tariff reductions resulting from the Kennedy Round should at least help to lessen price increases, some farm input prices for land, labor and credit will be higher in 1968.

GRAINS, FEEDS AND OILSEEDS

Wheat

Situation

World wheat production was a record 10.3 billion bushels in 1966-67, 17 per cent up from the previous year, but world trade amounted to only 2.1 billion bushels, 10 per cent less than the 1965-66 record. Production in Canada was at an all-time high of 827 million bushels and even though beginning season stocks were the lowest in four years, supplies were large. With a 13 per cent decline in exports to 516 million bushels, closing stocks rose to 576 million bushels. Commercial exports to developing countries rose slightly and aid shipments to developing countries increased substantially, while exports to Communist countries fell sharply, especially to the U.S.S.R. In line with high world prices, No. 1 Northern basis in store at the Lakehead, averaged a post-war record of $2.12 per bushel for the season.

Outlook

Present indications are for a decline in the 1967-68 world wheat harvest. In Western Europe, production in general is up slightly, and in developing countries it seems higher. The U.S.S.R. has a good crop, but it is 20 per cent smaller than last year. In Eastern Europe, production is slightly higher, and it also is reported better in Mainland China. In the major exporting countries together, production is down. The U.S. production is well above last year, but Canadian production is down and indications are that the southern hemisphere will harvest smaller crops.

With large harvests in many importing countries, world trade slowed down at the beginning of the 1967-68 season and may only total 1.8 billion bushels, 10 per cent less than last year. Supplies available for export are more than adequate and year-end stocks will rise slightly. Prices, which are now lower than last season, are expected to be maintained in the lower part of the new International Grains Arrangement range.

Canadian exports to developed countries have been slow and sales may be down from last year. Exports to developing countries will be substantially less and, this year, Communist countries have not increased purchases beyond their minimum contract level. There have been no significant shipments to Mainland China and it is impossible to accurately predict Canadian exports. Thus at present, exports can only be forecast in the range of 350-400 million bushels. With domestic disappearance at 155 million bushels, stocks will rise to between 615 and 665 million bushels. Under normal conditions, a smaller area than last year could produce all supplies needed to meet anticipated demand in 1968-69.

Flour

Canadian flour production and exports declined in 1966-67 and are expected to decline further in 1967-68. In the long term, a slight increase in domestic business is foreseen, but overall, Canadian flour production will continue its gradual decline.

Durum Wheat

Exports of durum wheat, which amounted to 27 million bushels in 1966-67, should rise slightly this year and the long-term outlook is for a slow upward trend. Even so, normal production from 1.25 million acres (or slightly less than in 1967) should provide adequate supplies for 1968-69.

Longer-Term Outlook for Wheat

There are varying assessments of the likely level of world trade in wheat between now and 1980, but assuming the continuance of present consumption and production trends, the most likely development will be the maintenance of the recently established balance between world supply and demand. While a number of factors tending to limit the market for Canadian wheat in the future are discernible, other changes are taking place in importing countries that are going to affect demands for Canadian wheat.

Rye

Production, exports and prices of Canadian rye increased in 1966-67 and stocks fell. The 1967 rye crop is lower by 22 per cent than last year and supplies for export are down considerably. Exports may not reach the 1966-67 level, but with a steady rise in domestic consumption, stocks will fall again at the end of the season. Some increase in rye acreage seems justified and, given normal yields, a total acreage of 850,000 acres, as compared with the 1967 figure of 758,000 acres, should be adequate.

Feed Grains

Situation

World trade in coarse grains has increased almost threefold over the last 10 years to a record 44 million metric tons in 1966-67. The bulk of the increase has been in corn and sorghum, while world trade in barley and oats has been constant. Barley and oats are Canada's major feed crops and the continuing rising demand for meat and livestock products in Canada has led to the bulk of Canadian production being used for feed. Canada's exports of oats and barley have declined over the past 10 years by 30 per cent to 1.2 million tons in 1966-67.

Concentrates fed, including grains, reached an all-time high of 17.2 million short tons in 1966-67. Some 1.04 tons were consumed per grain-consuming animal unit compared with 0.99 tons in 1965-66. The area in feed grains has declined, but production has not because yields have risen and there has been a switch to the higher energy-yielding types of grains such as barley and corn. However, oats still form 30 per cent of all concentrates fed.

Outlook

With the prospect of generally good returns from animal products and high feeding rates, concentrates fed are expected to rise to 17.7 million tons in 1967-68. As the oats and barley crops are smaller, the extra supplies will come from stocks together with the larger corn crop and some rise in imports. Carryover stocks at July 31, 1968 are likely to total only 3.4 million tons, the lowest level since 1962. Feed grain use may rise still further in 1968-69, and if stocks and supplies are to be maintained, an increase in feed grain acreage of about 10 per cent would be needed, assuming average yields.

Oats

In 1966-67, oats supplies were 8 per cent less than in the previous year. Domestic disappearance declined moderately, but exports were well below average and carryover stocks declined a little. Prices were reasonably steady around 91¢ per bushel for No. 1 feed at the Lakehead. In 1967, oats acreage again declined and yields were only average, so that total supplies for 1967-68 are about 20 per cent below the recent five-year average. However, the effect of the larger U.S. corn crop and the trend towards more higher-energy foods may prevent prices for oats showing much increase. Even with a lower than usual domestic disappearance, stocks at July 31, 1968 are likely to decline, and to maintain or build up these stocks by 1969, additional acreage of oats will be required.

Barley

With a record crop in 1966, barley feeding increased considerably and so did exports and stocks. Prices declined slightly but ended the year at $1.29 per bushel for No. 1 feed at the Lakehead. Barley production in 1967 declined 17 per cent on a larger acreage, but with good carryover stocks, supplies are down only 5 per cent and are still above average. Barley prices are lower than a year ago and are expected to continue below last year due to the competition of alternative feed grains on both world and domestic markets. Domestic disappearance could rise in 1967-68 and with average exports, carryover stocks would be reduced slightly. With some indication that barley yields in the Prairies are

rising faster than those of oats, a proportionately larger increase in the barley acreage would seem warranted.

Corn for Grain

Production and use of corn for grain reached a new record in 1966-67, with production up 10 per cent. In 1967, a further 9 per cent increase in production occurred. Although the record U.S. corn and sorghum crops are influencing corn prices in Canada, the continued trend to increased meat consumption and the growth in feedlot operations would justify further steady increases in the acreage of corn in Canada.

Oilseed Crops

Situation

Total exports of flaxseed, rapeseed and soybeans in 1966-67 amounted to 34 million bushels compared with 34.7 million bushels in 1965-66. Flaxseed exports were down by about 2 million bushels, rapeseed exports were up slightly, and soybeans were up about 1.5 million bushels.

For the crop year 1966-67 as a whole, flaxseed prices averaged about the same as for the crop year 1965-66; rapeseed prices averaged slightly higher and soybean prices also increased slightly.

Production of oilseed crops in the current crop year, 1967-68, are forecast at 46.2 million bushels compared with 58.1 million bushels in 1966-67. The major reduction was in flaxseed where production fell by 11.8 million bushels from the previous year. Rapeseed production was slightly higher in 1967-68 than the previous year, while soybean and sunflower seed production were both slightly lower in 1967-68. Principal acreage changes in 1967-68 were in flaxseed, down about 800,000 acres, and rapeseed, up about 200,000 acres.

Outlook

Price of flaxseed early in the 1967-68 crop year rose substantially, and it is expected that a higher price level will remain firm during the crop year. Rapeseed price was down in the early part of 1967-68 and will probably remain at relatively low levels. Soybean prices have declined in the early part of the 1967-68 crop year and are not expected to average as high as those of the last crop year.

High current prices and current low world stocks for flaxseed are probably only temporary and large acreage increases next year could bring much lower prices as the long-term world demand is still declining.

In view of an expanding domestic market for rapeseed products and of a steady export market for rapeseed, present rapeseed acreage should be maintained in 1968. The markets for soybean oil and meal are expected to continue under pressure of relatively large supplies of both soybeans and competing products. Current world market prospects do not warrant a large increase of Canadian soybean acreage. While the market and price prospects for sunflowers remain good, it is unlikely that any significant increase in production will materialize due to the difficulties of incorporating the crop into farm production programs.

LIVESTOCK AND MEAT

Situation

Hog gradings in Canada to the end of September 1967 averaged 153,442 head per week, an increase of 20.7 per cent over the same period last year. Excluding 1959, hog gradings in Canada, for this period, have been the heaviest since 1944. All provinces recorded a sharp increase. For the same period, inspected slaughter in the U.S.A. was up 14 per cent over last year. Hog slaughter in Canada has now been above year ago monthly levels since September 1966 and in the U.S.A. since August 1966, a period of over one year.

Domestic disappearance of pork in Canada for the first eight months of 1967 averaged the equivalent of 147,200 carcasses per week, an increase of 19 per cent over the same eight months of last year and the highest weekly average for this period on record. Exports for the first eight months, at 40.9 million pounds, exceeded 1966 levels for the same period by 5.7 million pounds. During the same period imports were down to 18.7 million pounds compared with 22.2 million pounds in 1966.

In 1967, monthly hog prices at Toronto and Chicago were below 1966 price levels to the end of September. For the month of September 1967, Grade A carcasses at Toronto averaged $30.08 ($33.92 last year) and at Chicago choice barrows and gilts averaged $19.85 live ($23.59 last year).

The inspected slaughter of cattle in Canada to the end of September 1967 averaged 50,352 head per week, a decrease of 1.5 per cent below the same period last year. In the U.S.A., inspected cattle slaughter to the end of August 1967, is estimated to be 2.8 per cent above year ago levels.

Domestic disappearance of beef in Canada for the first eight months of 1967, is estimated to average 51,100 head per week, an increase of 1 per cent over the same period last year. Exports of dressed beef and veal for the same period are approximately 25.1 million pounds, compared with

49.9 million for the same period last year. Imports increased to 34.6 million pounds compared with 24.7 million pounds to the end of August 1966. To September 30, 1967 exports of feeder cattle to the U.S. totaled 40,828 head, compared with 151,712 in 1966. The decrease in exports of dressed beef reflects in part the smaller volume of cow slaughter in 1967. Also, the exceptionally strong domestic market for beef in Canada has helped to reduce beef exports, including feeder cattle exports.

For the first nine months of 1967 fed cattle prices in Canada have been well above the "export basis". The simple average price for choice steers for the first nine months of 1967, is $28.63 at Toronto and $25.16 at Omaha, a difference of $3.47 per hundredweight. Choice steers at Toronto averaged $30.50 for September, the highest since 1952. At Calgary good feeder steer prices have been above 1966 levels since May and for the month of September averaged $27.12, about $2.40 above the same month in 1966.

Outlook

For the fourth quarter of 1967, hog gradings are forecast to exceed the same quarter a year earlier by 12 per cent and for the year, 17 per cent above 1966 gradings. Gradings for the first quarter of 1968 are forecast to be 5 to 7 per cent above the same quarter in 1967, and for the second and third quarters combined, 2 per cent higher than the 1967 average. Prospective hog slaughter in both Canada and the U.S.A. in 1968 will average below the high levels of 1967. Prices of choice barrows and gilts at Chicago are expected to average in the $19.00-$22.00 range through the first three quarters of 1968. Allowing for the relationship between hog prices at Chicago and Toronto, prices in Canada may not show any sizeable rise from present levels between now and the fall of 1968. Prices during the last quarter of 1968 will depend largely on the extent of the increase, if any, in the 1968 spring pig crop, particularly in the United States. Providing the hog-corn price ratio in the U.S.A. is favorable enough this fall to encourage hog producers to increase spring farrowings then lower prices would result in the fall and winter of 1968 and 1969.

In Canada, the volume of fed cattle (Choice and Good) that will be marketed in the last quarter of 1967 is expected to be below the same quarter in 1966. However, cattle placed on feed since midsummer show an increase over the comparable period in 1966. Thus fed cattle marketings in 1968 may average about the same to slightly higher than in 1967. In the U.S., the October 1, Cattle on Feed report indicates that fed beef output in the last quarter of 1967 and through the first half of 1968 may be below the same periods one year earlier. As a result Choice steer prices at Omaha are expected to increase to $27.00 by the end of the year and remain close to this level through the first quarter of 1968. Prices for the balance of the year are expected to be lower and average in the $25.00-$26.00 range.

Since September 1966, choice steer prices in Canada have remained above the export equivalent, with choice steers at Toronto in late October 1967, about $4.00 per hundredweight over Omaha. For the first nine months of 1967 the Canadian market consumed a weekly average of 28,809 head of Choice and Good combined, an increase of 6.5 per cent over the same period in 1966, with prices averaging about $3.50 per hundredweight above the "export basis". Therefore, it could be assumed that fed cattle prices in Canada throughout much of 1968 would remain above the export equivalent. However, on the demand side it is difficult to appraise the beneficial influence that Expo 67 and Centennial celebrations may have had on domestic beef prices.

DAIRY PRODUCTS

Situation

The total number of dairy cows on Canadian farms in 1967 was unchanged from 1966. Total milk production is forecast at 18.15 billion pounds. Production, which fluctuated very little during the six-year period, 1961-66, was maintained in 1967 at almost the same level.

Total marketings of milk for fluid use and factory products are expected to be down about 200 million pounds, but the percentage utilization in the various categories will remain almost unchanged. Production of creamery butter declined for the fifth consecutive year. Domestic consumption of creamery butter is forecast at 327 million pounds—down 21 million pounds from 1966. Output of cheddar cheese was down about 6 million pounds, while domestic consumption reached a record high. Cheese exports were down 4 million pounds from 1966. Ice cream consumption climbed 6 per cent, requiring a record 28.2 million gallons of ice cream mix. Concentrated milk products utilized slightly less milk than in 1966, and consumption is also expected to be down. Production of dry skim milk is expected to reach a record high of 310 million pounds, of which about 160 million pounds will be used domestically. Exports, which have been assisted by fairly heavy food aid contributions, especially famine relief, are expected to reach at least 100 million pounds.

Dairy Support Policy—Under the new Canadian Dairy Commission, the dairy support program for

the 1967-68 support year was designed to provide manufacturing milk producers with returns of $4.75 f.o.b. the factory. The total cost of the program is estimated to be in excess of $120 million. The program consists of a subsidy payment to farmers of $1.21 per 100 pounds of manufacturing milk (less a holdback of 11¢ per 100 pounds for expert assistance), basis 3.5 per cent butterfat, and an equivalent payment on cream; offer-to-purchase programs for creamery butter, cheddar cheese and spray process dry skim milk. Fluid milk producers are not eligible for the subsidy.

Outlook

Total milk production is expected to be up slightly in 1968 over the previous year. Butter production is likely to be little changed from 1967. No gains are expected to occur in the production of cheddar cheese or dry whole milk. The output of dry skim milk is expected to increase and may exceed 325 million pounds. Total fluid consumption is not likely to show any significant change from 1967. Sales of 2 per cent milk will probably continue to obtain an increasing share of total sales at the expense of standard milk. A continued rise in the domestic consumption of natural cheeses and ice cream is forecast, but the decline in creamery butter consumption is likely to continue.

Exports of cheddar cheese and dry whole milk are not expected to be significantly changed from 1967. More dry skim milk will probably be available for food aid programs.

POULTRY MEAT AND EGGS

Poultry meat production continued to expand in 1967, but at a slower rate than the average growth of recent years. Output will total 830 million pounds, up 5 per cent from 1966 but below the 9 per cent growth rate from 1960 to 1966.

Per capita consumption of poultry meat in 1967 will average 41 pounds, up by 1.5 pounds from a year earlier.

Most of the expansion of output occurred during the first half of 1967 because of the larger production of both broiler chickens and turkeys. Storage stocks at the beginning of the current year were also up sharply.

Poultry meat prices trended generally downward in the first half year due to heavy supplies of both poultry and red meats.

Production began to taper off last spring in the case of turkey and last summer in the case of chicken. As a result, output in the last half of the year will be down slightly from year-ago levels.

Broiler chicken output in 1967 will total 406 million pounds, up by 9 per cent from 1966. Although marketings were record large until August, they will be slightly under year-earlier levels this fall.

The 1967 crop of heavy turkeys is forecast at 7.1 million birds compared with 7.3 million marketed in 1966. Broiler turkey marketings will set another record high at 8.7 million, but marketings since July have been below year-ago levels.

Poultry meat output will likely continue to expand in 1968 by 4 to 4.5 per cent. Storage stocks of poultry meat by January will be reduced to normal levels and prices will likely strengthen. Larger supplies of red meat, especially pork, will increase competition on the demand side, but feeding costs are expected to be lower in 1968.

Egg marketings in 1967 will set a record high at 8.5 million cases, up by 1 million from 1966. Egg prices in 1967 trended sharply downward during the first six months, but have improved seasonally this summer and fall.

Prices will likely decline this winter because marketings will be rising seasonally and will be moderately above year-ago levels. If the lower rate of flock replacement continues as expected, marketings will drop below 1967 levels by the late summer of 1968. Egg prices will likely rise more than seasonally next summer and fall.

FRUITS AND VEGETABLES

Situation

Apples—The 1967 forecast apple harvest in Canada stands at a record of almost 25 million bushels, or about 18 per cent more than last year (21 million bushels) and 8 per cent more than the previous record of 23 million bushels produced in 1963. The British Columbia crop at 7.6 million bushels is the same as last year's outturn and 36 per cent more than the 1965 production, which was considerably lower than usual due to the 1964-65 winter damage. In Quebec, a new production record will be established this year and prospects in Nova Scotia are for a 13 per cent increase over the 1966 outturn, while production in Ontario is presently forecast to be down slightly.

The volume of exports of fresh apples in the 1966-67 season maintained the average of recent years. There was a reduction in British purchases but this was more than offset by an increase in shipments to the United States. The British government have announced an increase in the global quota of apples for the 1967-68 season of 50 per cent in the July 1-December 31 period and 33⅓ per cent in the January 1-June 30 period.

Potatoes—Potato production in Canada during 1967 is forecast at 43 million cwt., 25 per cent less than last year's total of 57.2 million cwt. but only about 5 per cent less than the 1960-64 average. This year's lower production was mainly the result of a 22 per cent decrease in yields, and, to a lesser extent, a decrease of 5 per cent in planted acreage. Production in Ontario in 1967 is only 55 per cent of the 1966 outturn. The acreage entered for seed certification was a record 99,000. The export market for table potatoes is irregular and fluctuates widely from year to year. This year, seed exports were well above the 1955-65 average of about 2 million cwt.

Other Fruit—Canadian production of small fruit in 1967 was larger than in 1966 with the exception of grapes and blueberries, while the outturn of all tender tree fruits were smaller in 1967 except sweet and sour cherries.

Other Vegetables—There was an increase in the contracted acreage of beans, peas, and tomatoes, while the corn acreage was down slightly. The minimum prices for processing crops were generally higher this year in comparison with last.

The prospects for an increased pack of Canadian and U.S. processed corn and tomatoes have been influenced by various unsatisfactory climatic conditions and packs are coming out at last year's levels or less.

Outlook

Apples—It is anticipated that the additional supplies available from the record production will be absorbed by increased sales to the fresh market and to processors. It is also expected there will be some increase in sales to the United Kingdom as a result of the expanded quota. The Canadian apple industry may also need to adjust to the situation by processing a greater percentage of the crop and, in turn, ship canned products to the export markets.

Potatoes—The domestic disappearance of fresh potatoes has changed little over recent years and while the production of processed potato products has increased, the overall situation does not warrant expansion in the industry. The prospects for potato exports indicate that a fairly stable but limited market exists in South America and in the Caribbean, and occasionally in Italy. The main export potential is tied to the United States and is in turn dependent on their production. There is a normal supply of North American potatoes available this year which suggests that prices in Canada during 1967-68 may average about the same or be slightly higher than those of last year, although the United States market may put a ceiling on any rise in the Canadian market particularly in the Eastern Provinces.

Prospects are good for continued export sales of frozen French fried potatoes to Britain; however, British freezers are expected to increase their pack of French fries and future market growth in that commodity may become more difficult for Canadian exporters.

Other fruit—The demand for fresh fruit on the domestic market has remained at fairly constant levels with strong prices. No significant change is expected in the next few years.

U.S. canned peaches and pears will continue to enter Canada to supply Canadian demand but Australian products entering Canada will likely continue to reduce the proportionate share of imports supplied by the United States.

Sales of canned red sour pitted cherries to Britain and West Germany are likely to increase due to the short pack in Michigan. There are prospects for increased shipments of frozen and canned berries to Britain.

Other Vegetables—The production of frozen vegetables has been on the increase and this trend will likely continue. Prospects for sales of canned whole kernel corn and tomato juice to Britain appear favorable. The export movement of onions and carrots from the 1967 crop is now in progress and prospects are for shipments of a volume equivalent to 1966, based on requirements of traditional importers of Canadian onions and carrots.

SPECIAL CROPS

Situation

Sugar Beets—The 1967 sugar beet acreage, at 84,600 acres, is higher than that of 1966 but not as high as in 1965. A reduction in average yield is expected to offset the increase in acreage to give a smaller total crop of beets. The 1967 crop is supported at $15.50 per standard ton, as against $14.35 for the 1966 crop. Market prices for sugar continued at or near record low levels.

Dry Peas—Production of dry peas declined in 1967 compared with 1966 due to a drop in acreage. Prices have also declined because of increased production in other producing countries.

Dried Beans—With reduced acreage and lower yields, the expected production of dried beans in 1967 is about 1.5 million bushels, compared with 2.3 million bushels last year. Total domestic consumption takes about 1,400,000 bushels annually, the balance plus carryover totaling about 200,000 bushels is available for export compared with last year's exports of over 1 million bushels.

Tobacco—The Canadian tobacco acreage was 140,500 acres in 1967, an increase of 8 per cent over 1966. Total acreage of flue-cured tobacco, the predominant type, reached 135,300 acres from the 124,200 acres in 1966, primarily due to the increased acreage allotment by the Ontario Flue-Cured Tobacco Growers' Marketing Board.

The preliminary forecast of the Canadian flue-cured crop is approximately 219 million pounds, green weight, compared with the 1966 record crop of 223.7 million pounds. Quality of the 1967 crop is excellent. A significant amount of imported leaf tobacco, 5.3 million pounds, was reported on hand as of June 30, 1967. In spite of a record crop of flue-cured tobacco in 1966, aged stocks of redried tobacco increased by only slightly more than one month's supply. Arrangements for exports to the United Kingdom were made for 67.5 million pounds, green weight, from the 1967 crop. Domestic manufacture of cigarettes increased by approximately 1.6 billion cigarettes during the year compared with annual increases of 3 billion in the two previous years

Outlook

Sugar Beets—If there is no reduction in refining capacity, the 1968 harvested acreage may approach 90,000 acres. Prices received for the 1968 beet crop will be determined by the combined effect of such factors as growers' contracts and provincial and federal government policies.

Dry Peas—Export market prospects are not as good as last year and there may be a carryover at the end of the year for the first time since 1965, however, marketings and prices in the years ahead are expected to return to the levels of recent years.

Dried Beans—Export prices to growers are expected to be higher than 1966 but a large drop in export supplies will restrict marketings and availability of supplies for Food Aid Programs. Expanding demand will continue to call for some increase in production.

Tobacco—Domestic consumption of flue-cured tobacco is expected to increase by approximately 3 million pounds, redried weight, each year for the next two or three years. The potential for increasing exports, particularly to the United Kingdom, is good but will be governed by the availability of Canadian supplies and the offerings of flue-cured tobacco in the world market by other major suppliers. Indications are that a minimum production of 226 million pounds, green weight, of flue-cured tobacco will be necessary in 1968 to meet domestic requirements and exports at their present levels. However, it is evident that unless production is expanded beyond 226 million pounds, green weight, there will be no opportunity to expand exports or replace stocks.

CEREAL, OILSEED AND FORAGE CROP SEEDS

Situation

Production of pedigreed spring wheat seed in 1967 is forecast at about 9 million bushels, an increase of 8 per cent over 1966. Of this total, 8.3 million bushels are Manitou. Both inspected acreage and forecast production of pedigreed oats were smaller in 1967 than in 1966 when production was estimated at 4.2 million bushels. Barley acreage and production decreased considerably from the large crop in 1966 to more normal levels in 1967. Pedigreed oilseed crops were somewhat larger than a year ago.

Seed production of most of the forage crops was smaller in 1967 than in 1966.

Outlook

The supplies of pedigreed Manitou seed wheat produced in 1967 are sufficient to meet the expected domestic demand in 1968 and also to provide seed for export. There are no definite indications as yet, of the demand for Manitou in the United States. It is expected, however, that the good performance of this variety will result in an export market for Canadian grown seed but the extent of this market is contingent upon the competition from the new American varieties. There were adequate supplies of pedigreed seed oats produced in 1967 but shortages of some varieties are expected to develop in Eastern Canada. Retail prices of seed oats may be somewhat higher than a year ago. No seed shortage of any of the principal barley varieties is expected but retail prices may be slightly higher than they were in 1967.

In spite of generally smaller seed crops of most of the forages no shortages of seed are expected for the 1968 planting season. Retail prices are expected to be as low as or lower than a year ago for timothy and a number of other kinds but probably higher for alfalfa, double-cut red clover, brome grass and bird's foot trefoil.

With some exceptions, the outlook for forage seeds, from the standpoint of the Canadian seed producer, is not bright because of low prices and declining export markets. It is expected, therefore, that the overall acreage for seed production will be still further reduced in 1968. However, acreage under the OECD Herbage Seed Scheme is expected to increase, with prices relatively higher than for other export seed.

AGRICULTURAL STABILIZATION PROGRAMS

AGRICULTURAL PRODUCTS MARKETING ACT, 1949

The Agricultural Products Marketing Act, passed in 1949 and amended April 12, 1957, provides for the extension, to interprovincial and export trade, of all or any powers exercised by provincial boards established under provincial legislation for the marketing of agricultural products within the province. The Governor in Council may grant further authority to fix, impose and collect levies or charges from persons engaged in the production or marketing of the whole or any part of any agricultural product and for such purpose to classify such persons into groups and fix the levies or charges payable by the members of the different groups in different amounts, to use such levies or charges for the purpose of such board or agency, including the creation of reserves, and the payment of expenses and losses, resulting from the sale or disposal of any such agricultural product, and the equalization or adjustment among producers of any agricultural product of moneys realized from the sale thereof during such period or periods of time as the board or agency may determine.

As at November 1, 1967, the following boards had their authority extended with respect to marketing agricultural products in interprovincial and export trade:

The British Columbia Fruit Board
The British Columbia Coast Vegetable Marketing Board
The British Columbia Interior Vegetable Marketing Board
The British Columbia Broiler Marketing Board
The British Columbia Turkey Marketing Board
The Alberta Broiler Growers' Marketing Board
The Alberta Potato Commission
The Saskatchewan Broiler Chicken Producers' Marketing Board
The Ontario Flue-cured Tobacco Growers' Marketing Board

With respect to Ontario vegetables:

The Farm Products Marketing Board of Ontario
The Ontario Vegetable Growers' Marketing Board

With respect to Ontario greenhouse vegetables:

The Farm Products Marketing Board of Ontario
The Ontario Greenhouse Vegetable Producers' Marketing Board

With respect to Ontario onions:

The Farm Products Marketing Board of Ontario
The Ontario Onion Producers' Marketing Board

With respect to Ontario asparagus for processing:

The Farm Products Marketing Board of Ontario
The Ontario Asparagus Growers' Marketing Board

With respect to Ontario beans:

The Farm Products Marketing Board of Ontario
The Ontario Bean Producers' Marketing Board

With respect to Ontario wheat:

The Farm Products Marketing Board of Ontario
The Ontario Wheat Producers' Marketing Board

With respect to Ontario strawberries and raspberries for processing:

The Farm Products Marketing Board of Ontario.
The Ontario Berry Growers' Marketing Board

With respect to Ontario grapes for processing:

The Farm Products Marketing Board of Ontario
The Ontario Grape Growers' Marketing Board

With respect to Ontario fresh grapes:

The Farm Products Marketing Board of Ontario
The Ontario Fresh Grape Growers' Marketing Board

With respect to Ontario fruit for processing:

The Farm Products Marketing Board of Ontario
The Ontario Tender Fruit Growers' Marketing Board

With respect to Ontario fresh fruit:

The Farm Products Marketing Board of Ontario
The Ontario Fresh Fruit Growers' Marketing Board

With respect to Ontario hogs:

The Farm Products Marketing Board of Ontario
The Ontario Hog Producers' Marketing Board

With respect to Ontario eggs and fowl:

The Farm Products Marketing Board of Ontario
The Ontario Egg and Fowl Producers' Marketing Board

With respect to Ontario broiler chickens:

The Farm Products Marketing Board of Ontario
The Ontario Broiler Chicken Producers' Marketing Board

With respect to Ontario cheese:

The Milk Commission of Ontario

The Ontario Milk Marketing Board

With respect to Ontario milk:

The Milk Commission of Ontario

The Ontario Milk Marketing Board

The Quebec North-West Pulpwood Producers' Board

The Rimouski-Matapedia Pulpwood Producers' Board

The Rimouski-Matane Wood Producers' Board

The Gaspesia Pulpwood Producers' Board

The Temiscamingue Pulpwood Producers' Board

The Levis and Bellechasse Pulpwood Producers' Board

The Ste. Anne de la Pocatière Region Wood Producers' Board

The Pontiac Forest Products Producers' Board

The Gatineau Valley Forest Products Producers' Board

The Lotbinière Forest Products Producers' Board

The Megantic Forest Products Producers' Board

The Rimouski-Temiscouata Forest Products Producers' Board

The Rimouski-Wood Producers' Syndicate

The Eastern Townships Region Wood Producers' Syndicate

The Wood Producers' Syndicate of Quebec South

The Quebec South Maple Sugar and Syrup Producers' Board

The Hull Region Milk Producers' Board

The Quebec Industrial Milk Producers' Marketing Board

The Quebec Apple Growers' Marketing Board

The Quebec Flue-cured Tobacco Producers' Board

The Eggs for Consumption Producers' Federation

The New Brunswick Hog Marketing Board

The Nova Scotia Marketing Board, with respect to wool

The Nova Scotia Marketing Board, with respect to hogs

The Nova Scotia Marketing Board with respect to broiler chickens

The Prince Edward Island Potato Marketing Board

In addition, the following Boards had authority as at November 1, 1967 to collect levies as detailed below:

The Ontario Bean Producers' Marketing Board

Authority to collect levies not to exceed the rate of 77¢ for each 100 pounds of beans marketed, to be in effect for the period up to August 14, 1968.

The Ontario Wheat Producers' Marketing Board

Authority to collect levies not to exceed the rate of 19¢ per bushel of wheat marketed, to be in effect for the period up to June 30, 1968.

The Ontario Milk Marketing Board

Authority to collect levies not to exceed the rate of 5¢ for each 100 pounds of milk marketed, to be in effect for the period up to March 31, 1968.

The Ontario Tender Fruit Growers' Marketing Board

Authority to collect levies not to exceed the rate of $4.00 per ton of Bartlett pears marketed, to be in effect for the period up to December 31, 1967.

The Ontario Tender Fruit Growers' Marketing Board

Authority to collect levies not to exceed the rate of $4.00 per ton of cherries marketed, to be in effect for the period up to December 31, 1967.

The Ontario Grape Growers' Marketing Board

Authority to collect levies not to exceed the rate of $5.00 per ton of grapes marketed, to be in effect for the period up to December 31, 1967.

The Ontario Tender Fruit Growers' Marketing Board

Authority to collect levies not to exceed the rate of $2.00 per ton of Kieffer pears marketed, to be in effect for the period up to December 31, 1967.

The Ontario Tender Fruit Growers' Marketing Board

Authority to collect levies not to exceed the rate of $2.00 per ton of peaches marketed, to be in effect for the period up to December 31, 1967.

The Ontario Tender Fruit Growers' Marketing Board

Authority to collect levies not to exceed the rate of $2.00 per ton of plums marketed, to be in effect for the period up to December 31, 1967.

AGRICULTURAL STABILIZATION ACT

COMMODITIES UNDER THE AGRICULTURAL STABILIZATION ACT AND THE CANADIAN DAIRY COMMISSION 1967-68

Commodity	Basic grade and market	Unit	Base price latest 10 year average	Per cent of base price	Support price	Effective period and method of support
			dollars	per cent	dollars	
Named Commodities:						
1. Eastern Grains						
(a) Wheat	No. 2 C.E. or better 14 per cent moisture delivered to Ontario elevators	bu.	1.71	80	1.37	July 1/67-June 30/68
(b) Oats	"	bu.	0.72	80	0.58	July 1/67-June 30/68
(c) Barley	"	bu.	1.10	80	0.88	July 1/67-June 30/68
2. Cattle (steers live)	Good delivered Toronto stockyards	cwt.	23.44	80	18.75	Apr. 1/67-Mar. 31/68 Deficiency payment
3. Sheep (lambs live)	Good, national basis	cwt.	20.36	92.3	18.80	Apr. 1/67-Mar. 31/68 Deficiency payment
4. Hogs (carcass warm dressed weight)	Grade A national average producer price	cwt.	28.29	80	22.63	Jan. 1/67-Dec. 31/6 Deficiency payment
5. Butter	Canada Frist Grade creamery 40-93 score or higher, Montreal	lb.	.580	80	.464	Apr. 1/67-Mar. 31/68 Offer-to-purchase
6. Cheese	Canada First Grade waxed cheddar basis delivered Belleville or Montreal	lb.	.3577	80	.286	Apr. 1/67-Mar. 31/68 Offer-to-purchase
7. Eggs	National weighted average producer price for Grade A Large	doz.	.3469	Not yet announced		Oct. 1/67-Sept. 30/68
Designated Commodities:						
1. Manufacturing Milk	Payment being made on butterfat basis	cwt. and 3.5 per cent butter-fat	—	—	4.64	Apr. 1/67-Mar. 31/68 Direct payment to producers of $1.21 of which 11¢ are withheld for export aid. Net payment to farmers is $1.10 on milk testing 3.5 per cent butterfat or 31.42c/lb. butterfat.
2. Sugar Beets	National average grower returns per standard ton of beets yielding 250 lbs. of sugar	ton	13.58	114	15.50	Sept. 1/67-Aug. 31/68 Deficiency payment.
3. Wool	Representative grades	lb.	.4262	140.8	0.60	Apr. 1/67-Mar. 31/68 Deficiency payment.

SELECTED INDEXES: FARM COSTS, FARM PRICES, WHOLESALE PRICES, CONSUMER PRICES, PRODUCTION

	Index of Prices Paid by Farmers				Index of prices received by farmers	Wholesale Price Indexes					Consumer Price Indexes		Production Indexes	
	Composite (excluding living costs)	Farm machinery	Taxes and interest rates	Farm wage rates		General	Canadian Farm Products All	Field	Animal	Non-farm products	All items	Food	Industrial	Farm
	1935-39=100										1949=100			
1940	106.8	105.8	102.1	131.8	96.8	108.0	96.1	85.4	106.7	112.2	65.7	52.6	63.9	111.9
1941	116.1	109.1	102.9	163.4	110.2	116.4	106.6	88.9	124.4	118.4	69.6	57.9	80.1	89.7
1942	131.6	114.4	104.3	211.6	133.1	123.0	127.1	109.7	144.6	122.0	72.9	63.4	94.7	141.4
1943	143.4	117.1	106.3	267.8	157.8	127.9	145.4	129.0	161.8	124.7	74.2	65.2	100.5	94.0
1944	148.0	118.2	111.2	275.3	172.4	130.6	155.3	144.5	166.1	127.0	74.6	65.5	101.3	117.3
1945	152.1	115.1	113.4	298.1	185.7	132.1	166.4	162.5	170.3	127.6	75.0	66.3	90.1	91.3
1946	157.0	118.8	117.2	314.6	204.1	138.9	179.5	177.9	181.2	135.2	77.5	70.0	83.8	106.3
1947	170.4	126.3	125.0	341.4	215.8	163.3	192.2	184.1	200.2	160.3	84.8	79.5	91.5	100.5
1948	197.6	141.6	131.3	371.2	255.8	193.4	232.1	200.6	263.7	184.9	97.0	97.5	96.4	105.4
1949	204.1	158.3	138.7	373.3	255.4	198.3	228.7	191.9	265.4	190.9	100.0	100.0	100.0	100.0
1950	210.4	165.1	144.3	368.7	260.8	211.2	236.7	191.9	281.4	204.2	102.9	102.6	106.9	110.0
1951	230.0	186.8	151.8	416.6	296.8	240.2	268.6	200.4	336.9	233.2	113.7	117.0	116.6	121.6
1952	243.1	195.4	161.4	445.5	274.4	226.0	250.2	223.0	277.5	226.0	116.5	116.8	120.9	140.8
1953	239.8	196.7	168.2	449.1	250.4	220.7	221.6	179.4	263.8	223.3	115.5	112.6	129.1	130.1
1954	237.2	197.9	174.6	441.2	236.8	217.0	213.6	170.9	256.3	219.6	116.2	112.2	128.5	103.2
1955	238.3	198.8	177.2	439.7	232.7	218.9	212.6	180.1	245.1	225.9	116.4	112.1	142.3	127.7
1956	247.6	209.4	184.7	470.3	234.6	225.6	214.2	181.6	246.9	235.7	118.1	113.4	154.9	140.3
1957	255.9	223.8	191.9	501.4	234.2	227.4	213.6	169.2	258.0	236.0	121.9	118.6	155.4	120.8
1958	259.9	236.1	196.7	513.2	245.5	227.8	229.9	171.4	274.5	233.0	125.1	122.1	153.0	129.9
1959	269.5	247.8	204.7	538.2	247.4	230.6	223.9	176.1	271.6	236.0	126.5	121.1	165.4	129.8
1960	276.7	253.5	214.5	555.3	250.0	230.9	226.6	189.1	264.1	237.0	128.0	122.2	167.6	138.7
1961	282.2	260.7	220.6	566.0	261.2	233.3	230.9	191.7	270.0	239.1	129.2	124.0	173.1	122.0
1962	290.7	268.1	228.0	576.1	272.0	240.0	240.8	195.5	286.0	244.8	130.7	126.2	186.1	150.9
1963	298.6	272.9	239.2	600.6	268.4	244.6	236.3	197.2	275.4	248.0	133.0	130.3	196.2	162.9
1964	308.6	279.6	247.4	627.5	258.0	245.4	227.3	187.3	267.3	252.2	135.4	132.4	213.3	151.5
1965														
January	309.6	284.9	247.4	621.0	245.7	246.8	222.5	182.5	262.5	254.3	136.9	132.5	224.3	—
February	—	—	—	—	251.7	246.4	224.9	182.1	267.7	254.7	137.2	133.1	223.1	—
March	—	—	—	—	252.1	246.8	225.0	180.3	269.7	255.0	137.3	133.3	226.7	—
April	321.8	284.9	247.4	688.9	255.8	247.6	228.7	185.4	272.1	256.0	137.7	133.4	225.5	—
May	—	—	—	—	259.0	249.2	232.5	188.2	276.8	257.6	138.0	134.5	225.4	—
June	—	—	—	—	268.9	252.0	245.2	192.8	297.7	257.8	139.0	137.6	225.9	—
July	—	—	—	—	273.3	251.8	248.9	198.5	299.2	257.8	139.5	139.0	228.5	—
August	326.8	284.9	247.4	721.2	264.6	251.2	238.0	177.9	298.2	257.8	139.4	137.8	232.4	—
September	—	—	—	—	261.4	251.0	232.0	167.1	296.8	257.8	139.1	136.4	234.4	—
October	—	—	—	—	264.5	252.0	237.2	172.8	301.6	257.8	139.3	135.7	236.3	—
November	—	—	—	—	266.3	253.8	241.9	174.4	309.3	258.8	140.2	138.2	239.5	—
December	—	—	—	—	274.7	255.5	—	—	—	259.1	140.8	139.6	242.2	—

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ROGER DUHAMEL, F.R.S.C. QUEEN'S PRINTER AND CONTROLLER OF STATIONERY, OTTAWA

SELECTED INDEXES: FARM COSTS, FARM PRICES, WHOLESALE PRICES, CONSUMER PRICES, PRODUCTION

(All indexes shown are official, seasonally unadjusted indexes published by the Dominion Bureau of Statistics.)

	Index of Prices Paid by Farmers				Index of Prices Received by Farmers	Wholesale Price Indexes					Consumer Price Indexes		Production Indexes	
							Canadian Farm Products			Non-farm products				
	Composite (excluding living costs)	Farm machinery	Taxes and interest rates	Farm wage rates		General	All	Field	Animal		All items	Food	Industrial	Farm
	1935-39=100										1949=100			
1947	170.4	126.3	125.0	341.4	215.8	163.3	192.2	184.1	200.2	160.3	84.8	79.5	91.5	100.6
1948	197.6	141.6	131.3	371.2	255.8	194.3	232.1	200.6	263.7	184.9	97.0	97.5	96.4	104.9
1949	204.1	158.3	138.7	373.3	255.4	198.3	228.7	191.9	265.4	190.9	100.0	100.0	100.0	100.0
1950	210.4	165.1	144.3	368.7	260.8	211.2	236.7	191.9	281.4	204.2	102.9	102.6	107.3	110.4
1951	230.0	186.8	151.8	416.6	296.8	240.2	268.6	200.4	336.9	233.2	113.7	117.0	117.4	122.3
1952	243.1	195.4	161.4	445.5	274.4	226.0	250.2	223.0	277.5	226.0	116.5	116.8	122.4	140.0
1953	239.8	196.7	168.2	449.1	250.4	220.7	221.6	179.4	263.8	223.3	115.5	112.6	131.3	130.2
1954	237.2	197.9	174.6	441.2	236.8	217.0	213.6	170.9	256.3	219.6	116.2	112.2	131.1	104.0
1955	238.3	198.8	177.2	439.7	232.7	218.9	212.6	180.1	245.1	225.9	116.4	112.1	145.5	127.1
1956	247.6	209.4	184.7	470.3	234.6	225.6	214.2	181.6	246.9	235.7	118.1	113.4	160.7	136.5
1957	255.9	223.8	191.9	501.4	234.2	227.4	213.6	169.2	258.0	236.0	121.9	118.6	163.3	117.0
1958	259.9	236.1	196.7	513.2	245.5	227.8	222.9	171.4	274.5	233.0	125.1	122.1	162.4	128.2
1959	269.5	247.8	204.7	538.2	247.4	230.6	223.9	176.1	271.6	236.0	126.5	121.1	176.5	127.3
1960	276.7	253.5	214.5	555.3	250.2	230.9	226.6	189.1	264.1	237.0	128.0	122.2	179.8	133.7
1961	282.2	260.7	220.6	566.0	261.2	233.3	230.9	191.7	270.0	239.1	129.2	124.0	186.2	116.1
1962	290.7	268.1	228.0	576.1	272.0	240.0	240.8	195.5	286.0	244.8	130.7	126.2	201.7	147.6
1963	298.6	272.9	239.1	600.6	268.4	244.6	236.3	197.2	275.4	248.0	133.0	130.3	215.3	162.0
1964	308.6	279.6	247.4	627.5	265.8	245.4	232.7	198.2	267.3	252.2	135.4	132.4	235.3	150.9
1965	321.8	284.9	259.1	677.0	282.1	250.4	249.8	210.3	289.3	257.2	138.7	135.9	254.9	162.0
1966	343.2	293.1	272.2	764.4	297.2	259.6	—	—	—	262.6	143.9	144.5	275.1	182.8
1966														
April	349.5	293.8	272.2	798.5	307.2	258.2	267.2	218.2	316.2	261.6	143.2	143.7	274.4	—
May	—	—	—	—	309.7	258.9	269.1	218.7	319.4	262.0	143.4	143.8	276.8	—
June	—	—	—	—	308.9	259.8	268.5	212.4	324.6	263.1	143.8	144.2	283.1	—
July	—	—	—	—	302.7	260.0	261.3	209.3	313.2	264.0	144.3	146.0	255.5	—
August	349.0	293.9	272.2	789.4	280.3	260.5	244.8	170.9	318.6	263.8	144.9	148.1	264.1	—
September	—	—	—	—	283.1	260.9	245.5	169.8	321.2	264.0	145.1	147.1	280.6	—
October	—	—	—	—	288.2	260.5	247.7	171.7	323.7	263.6	145.3	145.6	287.2	—
November	—	—	—	—	286.8	260.5	247.0	172.1	321.9	264.3	145.5	144.7	291.3	—
December	—	—	—	—	287.9	261.2	249.2	172.9	325.5	264.0	145.9	144.7	276.0	—
1967														
January	351.5	301.6	272.2	788.4	287.4	260.7	249.7	175.3	324.1	264.9	146.0	144.9	272.0	—
February	—	—	—	—	288.4	262.6	248.3	173.8	322.9	266.2	146.1	144.1	281.2	—
March	—	—	—	—	286.6	262.0	243.9	172.7	315.1	266.6	146.5	143.3	279.3	—
April	367.5	302.8	272.2	873.3	284.4	262.0	245.0	170.2	319.9	267.0	147.8	144.0	283.8	—
May	—	—	—	—	285.6	263.2	249.6	171.4	327.8	267.2	148.1	143.7	284.0	—
June	—	—	—	—	290.0	263.6	251.9	173.4	330.4	267.2	148.8	144.8	289.1	—
July	—	—	—	—	286.3	263.7	250.1	175.2	325.0	268.6	150.2	148.5	260.9	—
August	—	—	—	—	298.8	264.6	—	—	—	—	150.9	151.2	273.9	—

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